HIGHWAY WORK PROPOSAL

Proposal Number: 2 3

Wisconsin Department of Transportation
DT1502 10/2010 s.66.29(7) Wis. Stats.

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Brown	1133-10-75	WISC 2015 135	DePere - Suamico Memorial Drive - CTH M Velp Ave / USH 141 Intchg	USH 41
Brown	1133-10-77	WISC 2015 136	DePere - Suamico Memorial Drive - CTH M Memorial Dr-Duck Crk SB/IH43 Intchg	USH 41

This proposal, submitted by the undersigned bidder to the Wisconsin Department of Transportation, is in accordance with the advertised request for proposals. The bidder is to furnish and deliver all materials, and to perform all work for the improvement of the designated project in the time specified, in accordance with the appended Proposal Requirements and Conditions.

Proposal Guaranty Required, $ 1,000,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: March 10, 2015 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time June 15, 2017	
Assigned Disadvantaged Business Enterprise Goal 9 %	This contract is subject to federal oversight.

This certifies that the undersigned bidder, duly sworn, is an authorized representative of the firm named above; that the bidder has examined and carefully prepared the bid from the plans, Highway Work Proposal, and all addenda, and has checked the same in detail before submitting this proposal or bid; and that the bidder or agents, officer, or employees have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal bid.

Do not sign, notarize, or submit this Highway Work Proposal when submitting an electronic bid on the Internet.

Subscribed and sworn to before me this date _____

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State Wisconsin)

(Date Commission Expires)

Notary Seal

(Bidder Signature)

(Print or Type Bidder Name)

(Bidder Title)

For Department Use Only

Type of Work

Grading, breaker run, base aggregate dense, asphaltic base, HMA pavement, concrete pavement, decorative concrete, Structures B-5-668, B-5-672, B-5-673, B-5-676, B-5-682, R-5-086, R-5-234 ST2, R-5-81 ST2, R-5-235 ST2, R-5-258, R-5-259, R-5-260, permanent overhead sign Structures S-5-189 ST2, S-5-192, S-5-193 ST2, S-5-194 ST2, S-5-196 ST2, S-5-200 ST2, S-5-201 ST2, S-5-202 ST2, S-5-254, S-5-255, S-5-256, S-5-257, S-5-258, S-5-259, S-5-261, S-5-262, S-5-263, storm sewer, concrete barrier wall, curb and gutter, concrete sidewalk, guardrail, fencing, signing, pavement marking and delineators, lighting, and wavetronix.

Notice of Award Dated	Date Guaranty Returned

PLEASE ATTACH
PROPOSAL GUARANTY HERE

Effective with November 2007 Letting

PROPOSAL REQUIREMENTS AND CONDITIONS

The bidder, signing and submitting this proposal, agrees and declares as a condition thereof, to be bound by the following conditions and requirements.

If the bidder has a corporate relationship with the proposal design engineering company, the bidder declares that it did not obtain any facts, data, or other information related to this proposal from the design engineering company that was not available to all bidders.

The bidder declares that they have carefully examined the site of, and the proposal, plans, specifications and contract forms for the work contemplated, and it is assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, special provisions and contract. It is mutually agreed that submission of a proposal shall be considered conclusive evidence that the bidder has made such examination.

The bidder submits herewith a proposal guaranty in proper form and amount payable to the party as designated in the advertisement inviting proposals, to be retained by and become the property of the owner of the work in the event the undersigned shall fail to execute the contract and contract bond and return the same to the office of the engineer within fourteen (14) days after having been notified in writing to do so; otherwise to be returned.

The bidder declares that they understand that the estimate of quantities in the attached schedule is approximate only and that the attached quantities may be greater or less in accordance with the specifications.

The bidder agrees to perform the said work, for and in consideration of the payment of the amount becoming due on account of work performed, according to the unit prices bid in the following schedule, and to accept such amounts in full payment of said work.

The bidder declares that all of the said work will be performed at their own proper cost and expense, that they will furnish all necessary materials, labor, tools, machinery, apparatus, and other means of construction in the manner provided in the applicable specifications and the approved plans for the work together with all standard and special designs that may be designed on such plans, and the special provisions in the contract of which this proposal will become a part, if and when accepted. The bidder further agrees that the applicable specifications and all plans and working drawings are made a part hereof, as fully and completely as if attached hereto.

The bidder, if awarded the contract, agrees to begin the work not later than ten (10) days after the date of written notification from the engineer to do so, unless otherwise stipulated in the special provisions.

The bidder declares that if they are awarded the contract, they will execute the contract agreement and begin and complete the work within the time named herein, and they will file a good and sufficient surety bond for the amount of the contract for performance and also for the full amount of the contract for payment.

The bidder, if awarded the contract, shall pay all claims as required by Section 779.14, Statutes of Wisconsin, and shall be subject to and discharge all liabilities for injuries pursuant to Chapter 102 of the Statutes of Wisconsin, and all acts amendatory thereto. They shall further be responsible for any damages to property or injury to persons occurring through their own negligence or that of their employees or agents, incident to the performance of work under this contract, pursuant to the Standard Specifications for Road and Bridge Construction applicable to this contract.

In connection with the performance of work under this contract, the contractor agrees to comply with all applicable state and federal statutes relating to non-discrimination in employment. No otherwise qualified person shall be excluded from employment or otherwise be subject to discrimination in employment in any manner on the basis of age, race, religion, color, gender, national origin or ancestry, disability, arrest or conviction record (in keeping with s.111.32), sexual orientation, marital status, membership in the military reserve, honesty testing, genetic testing, and outside use of lawful products. This provision shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor further agrees to ensure equal opportunity in employment to all applicants and employees and to take affirmative action to attain a representative workforce.

The contractor agrees to post notices and posters setting forth the provisions of the nondiscrimination clause, in a conspicuous and easily accessible place, available for employees and applicants for employment.

If a state public official (section 19.42, Stats.) or an organization in which a state public official holds at least a 10% interest is a party to this agreement, this contract is voidable by the state unless appropriate disclosure is made to the State of Wisconsin Ethics Board.

Effective with August 2007 Letting

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

(1) Obtain bidding proposals as specified in section 102 of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:

1. Electronic bid on the internet.
2. Electronic bid on a printout with accompanying diskette or CD ROM.
3. Paper bid under a waiver of the electronic submittal requirements.

(2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.

(3) The department will provide bidding information through the department's web site at http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm. The contractor is responsible for reviewing this web site for general notices as well as information regarding proposals in each letting. The department will also post special notices of all addenda to each proposal through this web site no later than 4:00 P.M. local time on the Thursday before the letting. Check the department's web site after 5:00 P.M. local time on the Thursday before the letting to ensure all addenda have been accounted for before preparing the bid. When bidding using methods 1 and 2 above, check the Bid Express™ on-line bidding exchange at http://www.bidx.com/ after 5:00 P.M. local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (*.ebs or *.00x) is used to submit the final bid.

(4) Interested parties can subscribe to the Bid Express™ on-line bidding exchange by following the instructions provided at the www.bidx.com web site or by contacting:

Info Tech Inc.
5700 SW 34th Street, Suite 1235
Gainesville, FL 32608-5371
email: mailto:customer.support@bidx.com

(5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.

(6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

B Submitting Electronic Bids

B.1 On the Internet

(1) Do the following before submitting the bid:

1. Have a properly executed annual bid bond on file with the department.
2. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.

(2) In lieu of preparing, delivering, and submitting the proposal as specified in 102.6 and 102.9 of the standard specifications, submit the proposal on the internet as follows:

1. Download the latest schedule of items reflecting all addenda from the Bid Express™ web site.
2. Use Expedite™ software to enter a unit price for every item in the schedule of items.
3. Submit the bid according to the requirements of Expedite™ software and the Bid Express™ web site. Do not submit a bid on a printout with accompanying diskette or CD ROM or a paper bid. If the bidder does submit a bid on a printout with accompanying diskette or a paper bid in addition to the internet submittal, the department will disregard the internet bid.
4. Submit the bid before the hour and date the Notice to Contractors designates.
5. Do not sign, notarize, and return the bidding proposal described in 102.2 of the standard specifications.

(3) The department will not consider the bid accepted until the hour and date the Notice to Contractors designates.

B.2 On a Printout with Accompanying Diskette or CD ROM

(1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at **http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm**. Use Expedite ™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.

(2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal not in the sealed bid envelop but due at the same time and place as the sealed bid, also provide the Expedite™ generated schedule of items on a 3 1/2 inch computer diskette or CD ROM. Label each diskette or CD ROM with the bidder's name, the 4 character department-assigned bidder identification code from the top of the bidding proposal, and a list of the proposal numbers included on that diskette or CD ROM as indicated in the following example:

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

(3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.

(4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.

(5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:

1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.

3. The diskette or CD ROM is not submitted at the time and place the department designates.

C Waiver of Electronic Submittal

(1) The bidder may request a waiver of the electronic submittal requirements. Submit a written request for a waiver in lieu of bids submitted on the internet or on a printout with accompanying diskette or CD ROM. Use the waiver that was included with the paper bid document sent to the bidder or type up a waiver on the bidder's letterhead. The department will waive the electronic submittal requirements for a bidding entity (individual, partnership, joint venture, corporation, or limited liability company) for up to 4 individual proposals in a calendar year. The department may allow additional waivers for equipment malfunctions.

(2) Submit a schedule of items on paper conforming to section 102 of the standard specifications. The department charges the bidder a $75 administrative fee per proposal, payable at the time and place the department designates for receiving bids, to cover the costs of data entry. The department will accept a check or money order payable to: "Wisconsin, Dept. of Transportation."

(3) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:

1. The bidder fails to provide the written request for waiver of the electronic submittal requirements.
2. The bidder fails to pay the $75 administrative fee before the time the department designates for the opening of bids unless the bidder requests on the waiver that they be billed for the $75.
3. The bidder exceeds 4 waivers of electronic submittal requirements within a calendar year.

(4) In addition to the reasons specified in section 102 of the standard specifications, the department may refuse to issue bidding proposals for future contracts to a bidding entity that owes the department administrative fees for a waiver of electronic submittal requirements.

PROPOSAL BID BOND

Wisconsin Department of Transportation

DT1303 1/2006

Proposal Number	Project Number	Letting Date
Name of Principal		
Name of Surety	State in Which Surety is Organized	

We, the above-named Principal and the above-named Surety, are held and firmly bound unto the State of Wisconsin in the sum equal to the Proposal Guaranty for the total bid submitted for the payment to be made; we jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. The condition of this obligation is that the Principal has submitted a bid proposal to the State of Wisconsin acting through the Department of Transportation for the improvement designated by the Proposal Number and Letting Date indicated above.

If the Principal is awarded the contract and, within the time and manner required by law after the prescribed forms are presented for signature, enters into a written contract in accordance with the bid, and files the bond with the Department of Transportation to guarantee faithful performance and payment for labor and materials, as required by law, or if the Department of Transportation shall reject all bids for the work described, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. In the event of failure of the Principal to enter into the contract or give the specified bond, the Principal shall pay to the Department of Transportation **within 10 business days of demand** a total equal to the Proposal Guaranty as liquidated damages; the liability of the Surety continues for the full amount of the obligation as stated until the obligation is paid in full.

The Surety, for value received, agrees that the obligations of it and its bond shall not be impaired or affected by any extension of time within which the Department of Transportation may accept the bid; and the Surety does waive notice of any such extension.

IN WITNESS, the Principal and Surety have agreed and have signed by their proper officers and have caused their corporate seals to be affixed this date: **(DATE MUST BE ENTERED)**

PRINCIPAL

(Company Name) **(Affix Corporate Seal)**

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Name of Surety) **(Affix Seal)**

(Signature of Attorney-in-Fact)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

On the above date, this instrument was acknowledged before me by the named person(s).

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Date Commission Expires)

Notary Seal

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

On the above date, this instrument was acknowledged before me by the named person(s).

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Date Commission Expires)

Notary Seal

IMPORTANT: A certified copy of Power of Attorney of the signatory agent must be attached to the bid bond.

CERTIFICATE OF ANNUAL BID BOND

Wisconsin Department of Transportation

DT1305 8/2003

Time Period Valid (From/To)
Name of Surety
Name of Contractor
Certificate Holder Wisconsin Department of Transportation

This is to certify that an annual bid bond issued by the above-named Surety is currently on file with the Wisconsin Department of Transportation.

This certificate is issued as a matter of information and conveys no rights upon the certificate holder and does not amend, extend or alter the coverage of the annual bid bond.

Cancellation: Should the above policy be cancelled before the expiration date, the issuing surety will give thirty (30) days written notice to the certificate holder indicated above.

(Signature of Authorized Contractor Representative) (Date)

March 2010

LIST OF SUBCONTRACTORS

Section 66.0901(7), Wisconsin Statutes, provides that as a part of the proposal, the bidder also shall submit a list of the subcontractors the bidder proposes to contract with and the class of work to be performed by each. In order to qualify for inclusion in the bidder's list a subcontractor shall first submit a bid in writing, to the general contractor at least 48 hours prior to the time of the bid closing. The list may not be added to or altered without the written consent of the municipality. A proposal of a bidder is not invalid if any subcontractor and the class of work to be performed by the subcontractor has been omitted from a proposal; the omission shall be considered inadvertent or the bidder will perform the work personally.

No subcontract, whether listed herein or later proposed, may be entered into without the written consent of the Engineer as provided in Subsection 108.1 of the Standard Specifications.

Name of Subcontractor	Class of Work	Estimated Value

DECEMBER 2000

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS - PRIMARY COVERED TRANSACTIONS

Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.

4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.

7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR-1273 - "Required Contract Provisions Federal Aid Construction Contracts," without

modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

(1) The prospective contractor certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offense enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

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SPECIAL PROVISIONS

1. Administrative.

1.1 General.

Perform the work under this construction contract for Project 1133-10-75, De Pere – Suamico, Memorial Drive – CTH M, Velp Avenue / USH 141 Interchange, USH 41, Brown County, Wisconsin; and; Project 1133-10-77, De Pere – Suamico, Memorial Drive – CTH M, Memorial Drive – Duck Creek SB/IH 43 Interchange, USH 41, Brown County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2015 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.
100-005 (20140630)

1.2 Scope of Work.

Project 1133-10-75
The work under this contract shall consist of grading, breaker run, base aggregate dense, asphaltic base, HMA pavement, asphaltic surface, concrete pavement, decorative concrete, construction of Structure R-5-81 ST2; construction of overhead sign Structures S-5-254, S-5-255, S-5-256, S-5-257, S-5-258, S-5-259, S-5-261, S-5-262; storm sewer, curb and gutter, concrete sidewalk, signing, pavement marking, lighting, landscaping, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

Project 1133-10-77
The work under this contract shall consist of grading, strip drains, drainage blankets, geotextile fabric, asphaltic surface, pulverize and relay, breaker run, base aggregate dense, asphaltic base, HMA pavement, asphaltic surface, concrete pavement, construction of Structures B-5-668, B-5-672, B-5-673, B-5-676, B-5-682, R-5-086, R-5-234 ST2, R-5-235 ST2, R-5-258, R-5-259, R-5-260, construction of overhead sign Structures S-5-189 ST2, S-5-192, S-5-193 ST2, S-5-194 ST2, S-5-196 ST2, S-5-200 ST2, S-5-201 ST2, S-5-202 ST2, S-5-263; storm sewer, pipe underdrain, concrete barrier wall, curb and gutter, guardrail, fencing, decorative railing, signing, pavement marking and delineators, lighting, ITS, landscaping, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

1.3 Labor Compliance Reporting – Payroll Requirements.

Submit weekly certified payrolls verifying prevailing wage rates for all work performed under the contract as directed in the civil rights and labor compliance management system manual. Submit weekly certified payrolls within 14 calendar days of the week covered by the weekly certified payroll.
(NER41-20100426)

1.4 Field Facilities.

The department will provide primary field facilities for this project located at 1940 West Mason Street, Green Bay, WI 54303.

Provide two field facilies within the limits of this project in accordance to the field office bid item provided in the contract.

1.5 Other Contracts.

The following projects will be under construction concurrently with the work under this contract. Coordinate trucking activities, detours, work zone traffic control, roadway and lane closures, and other work items as required with other contracts.

South Segment: Glory Road – Ninth Street USH 41 Mainline
Project 1133-09-71, Glory Road – Morris Avenue USH 41 Mainline; Project, 1133-03-77, Morris Ave – Ninth Street USH 41 Mainline; Project 1133-09-76, Oneida Street (CTH AAA) Interchange; Project 1133-09-74, Hansen Road B-05-611, projects are located in Brown County, Wisconsin under a department contract. Work under these contracts are anticipated to be complete in July 2016. Coordinate work with 1133-09-71, 1133-03-77, 1133-09-76, and 1133-09-74 contractors. IH 43 ramps shall not be closed concurrently with the WIS 172 interchange ramp for the same movement, as follows: northbound USH 41 to southbound IH 43 and northbound USH 41 to eastbound WIS 172; northbound IH 43 to northbound USH 41 and westbound WIS 172 to northbound USH 41; northbound IH 43 to southbound USH 41 and westbound WIS 172 to southbound USH 41; southbound USH 41 to southbound IH 43 and southbound USH 41 to eastbound WIS 172. The prime contractor for 1133-09-71 is Lunda Construction, (715) 284-9491.

North Segment: Mainline USH 41, Duck Creek to Lineville Road
1133-10-71, De Pere – Suamico, Memorial Drive – CTH M, Memorial Drive - Duck Creek NB/IH 43 Interchange, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to occur between March 2015 and November 2015. Primary work items include the permanent pavement and structures for the northbound USH 41 roadway; the permanent pavement for the outside lanes for IH 43; the permanent pavement for the northbound USH 41 to southbound IH 43 ramp, the northbound IH 43 to northbound USH 41 ramp, and for all the Velp Avenue ramps, excluding the southbound USH 41 off-ramp. Work is constructed under Stage 1 and Stage 2, concluding at the start of Stage 3, with the shifting of all US 41 and IH 43 traffic

to newly-constructed permanent pavement, and the commencement of associated continuous closures of the southbound USH 41 to southbound IH 43 ramp, the northbound IH 43 to southbound USH 41 ramp, the southbound USH 41 off-ramp to Velp Avenue. Stage 3 under Project 1133-10-71 is anticipated to commence on November 13, 2015, and corresponds to Stage 3 for Project 1133-10-75/77. Coordinate activities with the Project 1133-10-71 contractor for traffic control, and for items of work under Project 1133-10-71 that potentially extend beyond the start of construction for Project 1133-10-75/77, including the start of Stage 3, and Stage 3 operations for the removal of existing signs and sign structures on newly-vacated roadways, and installation of footings for sign structures.

Project 1133-10-72, De Pere – Suamico, Lineville Road (CTH M) Interchange; Project 1133-10-81, Duck Creek – Lineville Road. Mainline are both located Brown County, Wisconsin under a department contract. Work under this contract is expected to be complete in April 2016. Coordinate work with 1133-10-72 and 1133-10-81 contractors for USH 41 traffic control, including lane closures, regulatory posted speed reductions, and advance warning signs. The prime contractor for 1133-10-72 and 1133-10-81 is Michaels Corporation, (920) 924-4377.

1133-11-74, De Pere – Suamico, Memorial Drive – CTH M, IH 43 Early Structures / Early Fill, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to be complete by the end of July 2015. Structural work extending into July 2015 includes approach aprons and polymer overlays. Coordinate activities with the Project 1133-11-74 contractor for newly-constructed structures, grading, maintenance roads and temporary haul roads for structures, temporary access to south shoreline of Duck Creek, traffic control, regulatory speed reductions, and advanced warning signs. The prime contractor for 1133-11-74 is Lunda Construction, (715) 284-9491.

Interstate Conversion.
Project 1133-03-76, IH 41 Conversion, SCL Dodge County - IH 43 Signing, USH 41, NE and SW Region Wide, Wisconsin under a department contract. Work under this contract is anticipated to be LET in the 2015 timeframe. Work areas under contract 1133-03-76 fall within the physical limits of work under this contract. Coordinate activities in these areas with the 1133-03-76 contractor.

1.6 Notice to Contractor – Airport Operating Restrictions, FAA Coordination by Contractor.

The Federal Aviation Administration (FAA) controls the height and/or elevation of temporary and permanent features within the airspace around Austin Straubel International Airport. The department has determined that a Temporary Determination of No Hazard to Air Navigation is not needed for the below estimated crane erection heights associated with bridge, noise wall and retaining wall construction at the following locations on the project:

Determinations for bridges:

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
US41 southbound over CN RR	Crane for B-05-673	N44°33'33.52"	W88°03'24.51"	616' (AGL) 766' (Top of Crane)	961'
US41 northbound over CN RR	Crane for B-05-674	N44°33'32.82"	W88°03'23.59"	616' (AGL) 766' (Top of Crane)	961'
Velp northbound ramp to US41 over CN RR	Crane for B-05-675	N44°33'32.20"	W88°03'22.87"	615' (AGL) 765' (Top of Crane)	961'
USH 41 southbound over Wietor Wharf Dr.	Crane for B-05-676	N44°33'40.56"	W88°02'14.69"	613' (AGL) 763' (Top of Crane)	972'
USH 41 southbound over Duck Creek	Crane for B-05-682	N44°33'52.70"	W88°02'59.90"	581' (AGL) 731' (Top of Crane)	988'
USH 41 southbound over Velp	Crane for B-05-668	N44°33'25.92"	W88°03'35.61"	609' (AGL) 759' (Top of Crane)	951'
USH 41 northbound over Velp	Crane for B-05-669	N44°33'24.22"	W88°03'35.53"	609' (AGL) 759' (Top of Crane)	951'
US41 southbound Velp Exit Ramp	Crane for B-05-672	N44°33'38.66"	W88°03'22.28"	620' (AGL) 770' (Top of Crane)	954'

Determinations for retaining walls:

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
US41 southbound Velp Exit Ramp	Crane for R-05-86	N44°33'28.37"	W88°03'35.29"	616' (AGL) 766' (Top of Crane)	954'
South Abutment along Velp Ave	Crane for R-234	N44°33'24.73"	W88°03'36.13"	609' (AGL) 759' (Top of Crane)	951'
North Abutment along Velp Ave	Crane for R-235	N44°33'25.40"	W88°03'35.10"	610' (AGL) 760' (Top of Crane)	952'
S. Abutment B-05-682	Crane for R-05-259	N44°33'52.70"	W88°02'59.90"	581' (AGL) 731' (Top of Crane)	988'
N. Abutment B-05-682	Crane for R-05-260	N44°33'52.70"	W88°02'59.90"	581' (AGL) 731' (Top of Crane)	988'
Northwest of B-05-682 N. Abutment	Crane for R-05-258	N44°34'1.00"	W88°02'57.00"	583' (AGL) 733' (Top of Crane)	997'
US41 northbound Velp On Ramp	Crane for R-05-82	N44°33'24.48"	W88°03'31.68"	604' (AGL) 754' (Top of Crane)	961'
US41 northbound Velp Exit Ramp	Crane for R-05-81	N44°33'17.39"	W88°03'44.78"	603' (AGL) 753' (Top of Crane)	941'

If crane elevations will exceed the estimated notice criteria elevations in the above table, the contractor will need to prepare and submit FAA Form 7460-1 Notice of proposed construction or Alteration at least 60 days prior to the start of construction activities. The required form can be found at the following location:

http://oeaaa.faa.gov/oeaaa/external/portal.jsp

The contractor shall copy the engineer on any correspondence with the FAA as it relates to new determinations. The contractor must also notify the manager of Austin Straubel International Airport, phone number (920) 498-4800, if a filing of FAA Form 7460-1 is necessary. A determination concerns the effect of temporary structures on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance or regulation of any Federal, State or local government body.
(NER41-20120117)

1.7 Notice to Contractor – Project Storage and Staging Areas.

Supplement standard specs 106.4(2) and 107.9 with the following:

To accommodate stage construction of the department planned contracts for the USH 41 Brown County program, the department will implement a review and approval process for use of storage and staging areas within the right-of-way and adjacent to the project.

Equipment and materials can be stored within the slope intercepts shown on the plan and within the footprint of the roadway or structures within the project limits. Storage of equipment and materials will not be allowed in areas which are restricted by traffic and other requirements provided in the special provisions.

Make any requests for storage and staging areas located outside of the slope intercepts or outside of the proposed roadway and structure footprints to the engineer. The request should include the anticipated date for occupying the area, the anticipated date for vacating the area, and a proposed restoration plan for the area. Review by the department does not constitute approval.
(NER41-20110317)

1.8 Notice to Contractor – Geotechnical Investigation.

Geotechnical Design Memorandums for the projects 1133-10-77 and 1133-10-77 are available for viewing on the Highway Construction Contract Information (HCCI) website.

2. Prosecution and Progress.

2.1 Prosecution and Progress

Begin work within ten calendar days after the engineer issues a written notice to do so.

Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

To revise the start date, submit a written request to the engineer at least two weeks before the intended start date. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

The contract time for completion is based on the expedited work schedule and may require extraordinary forces and equipment.

Indicate on the proposed schedule of operations that a large force and adequate equipment will be needed to assure that the work will be completed within the established contract time.

Winter weather work, excavation of frozen ground, high ground water, dewatering during winter months, and mitigation efforts for high water table elevations shall not be considered adverse weather delays to construction. Cost for dewatering is considered incidental to construction.

Anticipate cold weather and early spring concrete paving and ancillary concrete work (curb, median barrier, etc). Plan to heat aggregates and water for mixes, and that the heating of the aggregate and water is considered incidental to those concrete items. There will be no adverse weather delay for cold weather construction.

When engaged in roadway cleaning operations, use equipment having vacuum or water spray mechanisms to eliminate the dispersion of particulate matter into the atmosphere. If vacuum equipment is employed, it must have suitable self-contained particulate collectors to prevent discharge from the collection bin into the atmosphere.

The contractor is advised that there may be multiple mobilizations for such items as erosion control, traffic control, signing items, temporary pavement markings and other incidental items related to the staging. The department will make no additional payment for said mobilizations.

An assumed duration of specific traffic control set up and related construction activities have been included for information only. The contractor can elect to complete individual construction stages and traffic phases any time during the project contract, provided the prerequisites have been met and interim and final completion dates are met.

The schedule of operations shall conform to the construction staging as shown in the construction staging plans and special provisions, unless the engineer approves modifications to the schedule in writing.

Comply with all local ordinances which apply to construction operations. Furnish any ordinance variance issued by the municipality or any other required permits to the engineer by the contractor, in writing before performing such work.

Prior to Winter 2016-2017, pave lower layer of HMA pavement for Wietor Drive in the reconstructed section, near USH 41. During reconstruction of Wietor Drive, the driving surface shall not remain unpaved for more than 14 days, and that unpaved surface shall consist of 6” minimum base aggregate dense 1 ¼-inch.

Do not final-pave rural local roadways north of the Wisconsin Central Ltd. Railroad until they are no longer in use by construction equipment.

Fence Installation Notification
Notify the department's maintenance section a minimum of two weeks prior to permanent fence installation for final installation location. Contact Kurt Wranovsky, Maintenance Supervisor, at (920) 492-5645.

Formliners
Develop all unique non-standard formliner patterns that are required under this contract. All such costs associated with developing unique non-standard formliner patterns are considered incidental to the appropriate bid item.

Interim Liquidated Damages

ITS Equipment

Shared facilities between lighting and ITS, as indicated on the plans, include the following:

• An electrical service to be located off of Velp Avenue will be shared between lighting and ITS. This shared electrical service will be paid for under lighting.
• An electrical service to be located off of USH 41 near Duck Creek will be shared between lighting and ITS. This shared electrical service will be paid for under lighting.
• An electrical service to be located within the USH 41 and IH 43 Interchange will be shared between bridge lighting and ITS. This shared electrical service will be paid for under bridge lighting.

Transmission of video and data to the Statewide Traffic Operations Center (STOC) in Milwaukee and the Northeast Region Office in Green Bay will depend upon the utilization of an existing wireless communications system. The wireless communications system and fiber optic communications system covers a portion of the USH 41 Construction Corridor in Brown County and will provide a means for ITS components installed under this contract to communicate with network devices located in the communications room at the Northeast Region Office.

Complete installation of the fiber optic cable segments along USH 41 from the NE Region Office to Lineville Road, along IH 43 from USH 41 to Atkinson Drive, and along STH 29 from STH 172 to Packerland Drive. Demonstrate the proper functionality of the Brown County traffic management system (including but not limited to cameras, microwave detectors, and dynamic message signs) at the STOC and NE Region Office prior to salvaging the existing wireless communications equipment along the same segments. Notify Randy Asman of the WisDOT NE Region at (920) 492-7719 to coordinate a 48 hour window for the transition to fiber optic communications from the existing wireless communications system along these segments. ITS component downtime along these segments will be allowed during the 48 hour transitional period. If the contractor fails to reestablish communications within the 48 hour time period for the transition to fiber optic communications from the existing wireless communications system, the department will assess the contractor $1,000 in interim liquidated damages

for each calendar day in which any communications remain down. An entire calendar day will be charged for any period of time within a calendar day after the 48 hour transition period has ended in which any communications remain down. Damages will be assessed under the Administrative item Failing to Open Road to Traffic.

During the 48 hour transitional period from the existing wireless communications to fiber optic communications, the existing RS900 Ethernet switch in the pole mounted cabinet along STH 29 at Packerland Drive is to be salvaged. Within the same 48 hour transitional period, the salvaged Ethernet switch is to be reinstalled at the southbound dynamic message sign along USH 41 near Devon Street (DMS-05-0005) in the base mounted cabinet in order to allow communications via fiber optic cable and make the DMS fully operational. Salvaging the Ethernet switch is paid for under Salvage Ethernet Switch and reinstalling the Ethernet switch is paid for under Install Ethernet Switch. If the contractor fails to reestablish communications within the 48 hour time period for the transition to fiber optic communications from the existing wireless communications system, the department will assess the contractor $1,000 in interim liquidated damages for each calendar day in which any communications remain down. An entire calendar day will be charged for any period of time within a calendar day after the 48 hour transition period has ended in which any communications remain down. Damages will be assessed under the Administrative item Failing to Open Road to Traffic.

During the 48 hour transitional period from the existing wireless communications to fiber optic communications, the existing RS400 Ethernet switch in the pole mounted cabinet along IH 43 at Atkinson Drive is to be salvaged. Within the same 48 hour transitional period, the salvaged Ethernet switch is to be reinstalled at the southbound dynamic message sign along IH 43 south of Military Avenue (DMS-05-0009) in the pole mounted cabinet in order to allow communications via fiber optic cable and make the DMS fully operational. Salvaging the Ethernet switch is paid for under Salvage Ethernet Switch and reinstalling the Ethernet switch is paid for under Install Ethernet Switch. If the contractor fails to reestablish communications within the 48 hour time period for the transition to fiber optic communications from the existing wireless communications system, the department will assess the contractor $1,000 in interim liquidated damages for each calendar day in which any communications remain down. An entire calendar day will be charged for any period of time within a calendar day after the 48 hour transition period has ended in which any communications remain down. Damages will be assessed under the Administrative item Failing to Open Road to Traffic.

Upon installation of the permanent camera pole near Duck Creek (CCTV-05-0048) and the aforementioned fiber optic cable segments (along USH 41 from the NE Region Office to Lineville Road, along IH 43 from USH 41 to Atkinson Drive, and along STH 29 from STH 172 to Packerland Drive), existing ITS equipment near Duck Creek at Interim CCTV-05-0048 is to be salvaged/removed by the contractor:

- Remove Wood Pole
- Salvage Camera Assembly
- Salvage Pole Mounted Cabinet

• Salvage Ethernet Switch
• Salvage Video Encoder
• Salvage IP Radio
• Salvage Mounted Controller Microwave Detector Assembly

A portion of the ITS equipment salvaged from interim CCTV-05-0048 near Duck Creek is to be delivered to the Wisconsin Department of Transportation (WisDOT) NE Region Headquarters located at 944 Vanderperren Way, Green Bay, WI. Contact Mr. Randy Asman at (920) 492-7719 to coordinate delivery of equipment. Damage occurring to salvaged equipment during the salvaging process or between the time of salvaging and delivery is the responsibility of the contractor. Equipment damaged during the salvaging process or between the time of salvaging and delivery will be repaired or replaced at the expense of the contractor. Salvaged equipment from Interim CCTV-05-0048 near Duck Creek to be delivered to WisDOT includes:

- 3 – IP radio

A portion of the ITS equipment salvaged from interim CCTV-05-0048 near Duck Creek is to be reinstalled at the permanent camera site (CCTV-05-0048). Damage occurring to salvaged equipment during the salvaging process or between the time of salvaging and reinstallation is the responsibility of the contractor. Equipment damaged during the salvaging process or between the time of salvaging and reinstallation will be repaired or replaced at the expense of the contractor. Salvaged equipment from interim CCTV-05-0048 north of Duck Creek to be reinstalled at the permanent camera site (CCTV-05-0048) includes:

• Camera Assembly
  • Reinstall the camera assembly on the permanent CCTV-05-0048 pole. Reinstallation is paid for under Install Camera Assembly.

• Pole Mounted Cabinet
  • Reinstall the pole mounted cabinet and attached electrical service disconnect box on the permanent CCTV-05-0048 pole. Reinstallation is paid for under Install Pole Mounted Cabinet.

• Ethernet Switch (RS900)
  • Reinstall the Ethernet switch in the pole mounted cabinet salvaged from Interim CCTV-05-0048. Reinstallation is paid for under Install Ethernet Switch.

• Video Encoder
  • Reinstall the video encoder in the pole mounted cabinet salvaged from Interim CCTV-05-0048. Reinstallation is paid for under Install Video Encoder.

Stage the transition from interim CCTV-05-0048 to the permanent camera near Duck Creek (CCTV-05-0048) to ensure a maximum down time of 48 hours. If the contractor fails to establish power, video, or communications within the 48 hour time period for the

transition from interim CCTV-05-0048 to the permanent camera near Duck Creek (CCTV-05-0048), the department will assess the contractor $1,000 in interim liquidated damages for each calendar day in which any power, video, or communications remain down. An entire calendar day will be charged for any period of time within a calendar day after the 48 hour transition period has ended in which any power, video, or communications remain down. Damages will be assessed under the Administrative item Failing to Open Road to Traffic.

A portion of the ITS equipment salvaged from interim CCTV-05-0048 near Duck Creek is to be reinstalled at the USH 41 and IH 43 Interchange. Damage occurring to salvaged equipment during the salvaging process or between the time of salvaging and reinstallation is the responsibility of the contractor. Equipment damaged during the salvaging process or between the time of salvaging and reinstallation will be repaired or replaced at the expense of the contractor. Salvaged equipment from interim CCTV-05-0048 north of Duck Creek to be reinstalled at the USH 41 and IH 43 Interchange includes:

- Mounted Controller Microwave Detector Assembly
    - Reinstall the mounted controller microwave detector assembly at one of the new detection sites (SDS-05-0019) in the USH 41 and IH 43 Interchange. Reinstallation is paid for under Install Mounted Controller Microwave Detector Assembly.

A portion of the ITS equipment removed from Interim CCTV-05-0048 near Duck Creek is to be disposed of by the contractor. Removed equipment includes:

- Wood Pole
    - Remove the wood pole and dispose off of WisDOT Right-of-Way. Removal is paid for under Remove Wood Pole.

Upon installation of the aforementioned fiber optic cable segments (along USH 41 from the NE Region Office to Lineville Road along IH 43 from USH 41 to Atkinson Drive, and along STH 29 from STH 172 to Packerland Drive), after the 48 hour transitional period from the existing wireless communications to fiber optic communications, existing ITS equipment from the following sites is to be salvaged by the contractor:

- Ethernet Switch (RS900)
    - 1 – CCTV-05-0043 (USH 41 at Lombardi Avenue)
    - 1 – CCTV-05-0044 (USH 41 at Mason Street)
    - 1 – CCTV-05-0045 (USH 41 at STH 29)
- IP Radio
    - 1 – CCTV-05-0051 (USH 41 at STH 172)
    - 2 – CCTV-05-0043 (USH 41 at Lombardi Avenue)
    - 2 – CCTV-05-0044 (USH 41 at Mason Street)
    - 2 – CCTV-05-0045 (USH 41 at STH 29)
    - 1 – CCTV-05-0050 (STH 29 at Packerland Drive)
    - 3 – Interim CCTV-05-0048 (USH 41 between Duck Creek and Lakeview Drive)

1 – DMS-05-0005 (USH 41 near Devon Street)
1 – CCTV-05-0049 (USH 41 at Lineville Road)
1 – DMS-05-0009 (IH 43 south of Military Avenue)
2 – CCTV-05-0057 (IH 43 at Atkinson Drive)

ITS equipment salvaged from the above sites is to be delivered to the Wisconsin Department of Transportation (WisDOT) NE Region Headquarters located at 944 Vanderperren Way, Green Bay, WI. Contact Mr. Randy Asman at (920) 492-7719 to coordinate delivery of equipment. Damage occurring to salvaged equipment during the salvaging process or between the time of salvaging and delivery is the responsibility of the contractor. Equipment damaged during the salvaging process or between the time of salvaging and delivery will be repaired or replaced at the expense of the contractor.

Microwave detectors shall be fully operational with the ability to access data remotely at the following locations at least 30 calendar days prior to the construction completion date:

- USH 41 at Velp Avenue (SDS-05-0018)
- USH 41 at IH 43 Interchange (SDS-05-0019)

Ramp closure gates shall be fully operational at the following locations at least 30 days prior to the construction completion date:

- USH 41 at Velp Avenue (G-05-0018, G-05-0019, and G-05-0047)

If the contractor fails to complete construction operations and testing of all ITS equipment prior to 12:01 AM at least 30 calendar days prior to the construction completion date, the department will assess the contractor $1,000 in interim liquidated damages for each calendar day the ITS equipment remains incomplete. An entire calendar day will be charged for any period of time within a calendar day after 30 calendar days prior to the construction completion date in which the ITS remains incomplete as defined by the plans, this special provision and the engineer.

Completeness is determined by the following criteria:

- ITS field equipment has been installed by the contractor and been accepted by the engineer.

- Communications from ITS field equipment is received at the Statewide Traffic Operations Center (STOC) and NE Region Headquarters.

- Operators are capable of operating and communicating with cameras, detectors, and dynamic message signs.

Lane Rental

USH 41 and IH 43

Open USH 41 and IH 43 to two lanes of traffic in each direction and remove all traffic control devices associated with the lane closure during times that single lane closures are not allowed, including periods shown in the article for Traffic.

If the contractor fails to open USH 41 and IH 43 to two lanes of traffic in each direction and remove all traffic control devices associated with the lane closure during times that single lane closures are not allowed including periods shown in the article for Traffic, the department will assess an initial deduction of $2,500 and an additional $2,500 per 15-minute interval or portion thereof from money due under this contract for each 15-minute interval that lane closure(s) remain. The department will administer lane rental for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

Interstate Ramp Southbound USH 41 to Southbound IH 43, Northbound IH 43 to Southbound USH 41 (Long Term Full Closure For Ramps)
If the contractor fails to open designated ramp to traffic and remove all traffic control devices associated with the full roadway closure during times that closures are not allowed as shown in the article for Traffic, the department will assess $10,000 for each calendar day the contract work remains incomplete beyond the required opening date. An entire calendar day will be charged for any period of time within a calendar day that any ramp remains closed beyond 12:01 AM. The department will administer lane rental under the Failing to Open Road to Traffic administrative item.

Velp Avenue and Ramps
If the contractor fails to open Velp Avenue and designated ramps to traffic and remove all traffic control devices associated with the full roadway closure during times that closures are not allowed as shown in the article for Traffic, the department will assess $25,000 for each calendar day the contract work remains incomplete beyond the required opening date. An entire calendar day will be charged for any period of time within a calendar day that Velp Avenue or any ramp remains closed beyond 12:01 AM. The department will administer lane rental under the Failing to Open Road to Traffic administrative item

Nighttime Full Roadway Closures
Complete construction operations during off peak and nighttime lane closures to traffic for all of the IH 43/USH 41 system ramps, both directions of Velp Avenue at the crossing of USH 41, and all of the Velp Avenue ramps at USH 41, to the stage necessary to reopen it to through traffic prior to peak hours as specified in the article for Traffic.

If the contractor fails to open designated ramps and/or direction of Velp Avenue to traffic and remove all traffic control devices associated with the full roadway closure during times that nighttime closures are not allowed including periods shown in the Article for Traffic, the department will assess an initial deduction of $500 and an additional $500 per 15-minute interval or portion thereof, for each ramp or direction of Velp Avenue, from money due under this contract for each 15-minute interval that each closure remains. The

department will administer lane rental under the Failing to Open Road to Traffic administrative item.

The department will not grant time extensions to the interim or final completion dates specified above for the following:

1. Severe weather as specified in standard spec 108.10.2.2.
2. Labor disputes that are not industry wide.
3. Delays in material deliveries.

If contract time expires prior to completing all work specified in the contract, additional liquidated damages will be affixed according to standard spec 108.11.

Temporary Impacts to Waters

All temporary impacts to waters of the United States, including wetlands, rivers, and streams, shall be restored to their pre-impact condition within 30 days of completion of their use.

Duck Creek Temporary Causeways

Do not simultaneously have causeway materials within the limits of Duck Creek along both shorelines. Do not adjust, expand, or remove causeways during the fish spawning period from March 1 to June 15, both dates inclusive.

Fish Spawning

There shall be no instream disturbance of Duck Creek, or of the unnamed waterway crossing USH 41 at Station 1235+20 NMC, as a result of construction activity under or for this contract, from March 1 to June 15 both dates inclusive, in order to avoid adverse impacts upon the spawning fish such as northern pike, walleye, suckers, and redhorse.

Any change to this limitation will require submitting a written request by the contractor to the engineer, subsequent review and concurrence by the Department of Natural Resources in the request, and final approval by the engineer. The approval will include all conditions to the request as mutually agreed upon by WisDOT and DNR.

Migratory Birds

Swallow and other migratory birds' nests have been observed on or under the existing bridges over Duck Creek and directly adjacent to the project limits. All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act.

The nesting season for swallows and other birds is usually between May 1 and August 30. Either prevent active nests from becoming established, or apply for a depredation permit from the US Fish and Wildlife Service for work that may disturb or destroy active nests. The need for a permit may be avoided by removing the existing bridge structure prior to nest occupation by birds, or clearing nests from all structures before the nests become active in early spring. As a last resort, prevent birds from nesting

by installing a suitable netting device on the remaining structure prior to nesting activity. Preventing the nesting is incidental to the contract.

2.2 CPM Baseline Schedule, Item SPV.0060.001; CPM Schedule Monthly Updates, Item SPV.0060.002.

Replace standard spec 108.4 with the following:

108.4 Critical Path Method Progress Schedule
108.4.1 Definitions
The department defines terms as follows:

Activity
A task, event or other project element on a schedule that contributes to completing the project. Activities have a description, start date, finish date, duration and one or more logic ties.

Contract Completion Date
The current extended date for completion of the contract.

Critical Path
The longest continuous path of activities through the project that has the least amount of total float. In general, a delay on the critical path will extend the scheduled completion date.

Critical Path Method (CPM)
A network based planning technique using activity durations and the relationships between activities to mathematically calculate a schedule for the entire project.

Data Date
The earliest work period after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "as-planned."

Department's Preliminary Design Schedule
The department's schedule for the contract work, developed during design, and provided to the contractor for informational purposes only.

Float
The difference between the earliest and latest allowable start or finish times for an activity.

Fragnet
A group of logically-related activities, typically inserted into an existing CPM schedule to model a portion of the project, such as the work associated with a change order.

Milestone
An event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

Scheduled Completion Date
The planned project finish date shown on the current accepted schedule.

Total Float
The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date. It is the most critical total float if the start float and finish float differ.

108.4.2 Department's Preliminary Design Schedule
The department's Preliminary Design Schedule was developed during the design phase of the Contract. Its purpose was to illustrate work areas per Stage/Phase of construction. Durations and resource availability are department estimates only. Contractor is solely responsible for its use of means and methods and as such is fully responsible for determining durations based on own estimate of production and available resources. The suggested use of the department's Preliminary Design Schedule is ease of identification of work availability during each Stage/Phase and the logical relationship between the Stages/Phases. Any reliance on the department's Preliminary Design Schedule is at the sole risk of the contractor.

108.4.3 Contractor's Scheduling Responsibilities
The CPM Schedule shall be a tool capable of forward planning and monitoring the Project. The schedule will further be used as a communication tool between the contractor and the department. It will be used to illustrate the plan, develop what-if scenarios, and analyze impacts. The accuracy and completeness of the CPM Schedule will benefit both the contractor and the department.

The contractor shall submit to the department initial and monthly update schedules, each consistent in all respects with the time and order of work requirements of the contract. The project work shall be executed in the sequence indicated on the current accepted schedule. Schedules shall show the order in which the contractor proposes to carry out the work with logical links between activities, and calculations made using the critical path method to determine the controlling operation or operations. The contractor is responsible for assuring that each schedule shows a coordinated plan for complete performance of the work.

Contactor Project management personnel shall actively participate in the schedule development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate schedule.

The schedules shall be computer produced using the latest version of Primavera Project Planner, by Oracle, Inc., Bala Cynwyd, PA or compatible software. The contractor shall

designate a Project Scheduler who will be responsible for scheduling the work and submit for approval a professional resume describing their experience.

108.4.4 Submittals

108.4.4.1 Initial Work Plan

At least ten business days before the Preconstruction Meeting, as scheduled in section 103.10 as defined in article 4.1 Contract Award and Execution, submit an Initial Work Plan consisting of the following:

• Provide a detailed plan of activities to be performed within the first 90 calendar days of the contract. Provide construction activities with durations not greater than 21 calendar days (15 business days), unless the department accepts requested exceptions.

• Provide activities as necessary to depict administrative work, including submittals, reviews, and procurements that will occur within the first 90 calendar days of the contract. Activities other than construction activities may have durations greater than 21 calendar days (15 business days). Allow 21 calendar days (15 business days) for department review of submittals.

• Provide summary activities for the balance of the project. Summary activities may have durations greater than 21 calendar days (15 business days).

• Submit/email an electronic schedule data file and a PDF plot file of the Initial Work Plan to the department.

• The department will accept the contractor's Initial Work Plan or provide comments within 5 business days after receipt of the Initial Work Plan. Address comments and resubmit the Initial Work Plan within 5 business days. The department will use the initial work plan to monitor the progress of the work until the CPM Baseline Schedule is accepted.

• Submit an updated version of the Initial Work Plan on a bi–weekly (every other week) basis until the department accepts the CPM Baseline Schedule. With each update, include actual start dates, completion percentages, and remaining durations for activities started but not completed. Include actual finish dates for completed activities.

108.4.4.2 CPM Baseline Schedule (Initial Schedule)

Within 60 calendar days after the notice to proceed submit a CPM Baseline Schedule and written narrative consisting of the following:

1. The CPM Baseline Schedule shall include the following:
   • Provide a detailed plan of activities to be performed during the entire contract duration, including all administrative and construction activities required to complete the work as described in the contract documents. Provide construction activities with durations not greater than 21 calendar days (15 business days), unless the department accepts requested exceptions.

• Provide activities as necessary to depict administrative work, including submittals, reviews, procurements, inspections, and all else necessary to complete the work as described in the contract documents. Activities other than construction activities may have durations greater than 21 calendar days (15 business days). Allow 21 calendar days (15 business days) for department review of submittals.
• Provide activities as necessary to depict third party work related to the contract.
• Make allowance for specified work restrictions, non-working days, time constraints, calendars, and weather.
• With the exception of the Project Start Milestone and Project Completion Milestone, all activities must have predecessors and successors. The start of an activity shall have a Start-to-Start or Finish-to-Start relationship with preceding activities. The completion of an activity shall have a Finish-to-Start or Finish-to-Finish relationship with succeeding activities. Use of Start-to-Finish relationships, Finish-to-Start relationships with a lag, and negative lags will not be accepted unless the department accepts requested exceptions.
• Schedule all intermediate Contract required milestones (Incentive/Disincentive target dates are not considered Contract requirements) in the proper sequence and input as either a "Start-no-Earlier-Than" or "Finish-no-Later-Than" date (mandatory dates will not be permitted.). Provide predecessors and successors for each intermediate milestone as necessary to model each Stage of the Work. Unless the department accepts a requested exception, the schedule shall encompass all the time in the contract period between the starting date and the specified completion date.
• Schedules shall have not less than 150 and not more than 400 activities unless otherwise authorized by the department. The number of activities shall be sufficient to assure adequate planning of the project, to permit monitoring and evaluation of progress, and to do an analysis of time impacts. Schedule activities shall include the following:
  • A clear and legible description.
  • Required constraints.
  • Codes for responsibility, stage and area.

2. Provide a written narrative with the CPM Baseline Schedule explaining the planned sequence of work, as-planned critical path, critical activities for achieving intermediate milestone dates, traffic phasing, and planned labor and equipment resources. Use the narrative to further explain:
• The basis for activity durations in terms of production rates for each major type of work (number of shifts per day and number of hours per shift), and equipment usage and limitations.
• Use of constraints.
• Use of calendars.
• Estimated number of adverse weather days on a monthly-basis.
• Scheduling of permit and environmental constraints, and coordination of the schedule with other contractors, utilities, and public entities.

3. Submit/email an electronic schedule data file and a PDF plot file of the CPM Baseline Schedule to the department.

Within ten business days of receiving the CPM Baseline Schedule, the department will provide comments and schedule a meeting for the contractor to present its CPM Baseline Schedule within fifteen business days of receiving the CPM Baseline Schedule.

At the meeting scheduled by the department, provide a presentation of the CPM Baseline Schedule. In the presentation, include a discussion of the staging and sequencing of the work, understanding of traffic phasing, and application of labor and equipment resources to the work. Address comments raised in the department's review.

Within five business days after the meeting, the department will accept the contractor's CPM Baseline Schedule or provide additional comments. Address the department's comments and resubmit a revised CPM Baseline Schedule within ten business days after the department's request. If the department requests justification for activity durations, provide information that may include estimated labor, equipment, unit quantities, and production rates used to determine the activity duration.

The department accepts the CPM Baseline Schedule based solely on whether the schedule is complete as specified in this section. Errors or omissions on schedules shall not relieve the contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the department, either the contractor or the department discovers that any aspect of the schedule has an error or omission, it shall be corrected by the contractor on the next update schedule.

The department will not consider requests for contract time extensions as specified in 108.10 or additional compensation for delay specified in standard spec 109.4.7 until the department accepts the CPM Baseline Schedule.

108.4.4.3 CPM Schedule Monthly Updates

Submit CPM Schedule Monthly Updates on a monthly basis after acceptance of the CPM Baseline Schedule. With each CPM Schedule Monthly Update include the following:

• Actual start dates, completion percentages, and remaining durations for activities started but not completed, and actual finish dates for completed activities.

• Additional activities as necessary to depict additions to the contract by changes and logic revisions as necessary to reflect changes in the contractor's plan for prosecuting the work. Changes that result in a change to the current Critical Path will be subject to the provisions in CPM Schedule Revisions.

• A narrative report that shall be organized in the following sequence with all applicable documents included:

a. Contractor's transmittal letter.
b. Work completed during the period.

c. Identification of unusual conditions or restrictions regarding labor, equipment or material; including multiple shifts, 6-day work weeks, specified overtime or work at times other than regular days or hours.
d. Description of the current critical path.
e. Changes to the critical path and scheduled completion date since the last schedule submittal.
f. Description of problem areas including: current and anticipated delays; cause of delay; impact of delay on other activities, milestones and completion dates; corrective action and schedule adjustments to correct the delay.
g. Pending items and status thereof, including: Permits, Change orders and Time adjustments
h. Work planned for the next 30 calendar days, and
i. Changes to the CPM Baseline Schedule including: the addition or deletion of activities; changes to activity descriptions, original durations, relationships, constraints, calendars, or previously recorded actual dates. Justify changes to the CPM Baseline Schedule in the narrative by describing associated changes in the planned methods or manner of performing the work or changes in the work itself.

Submit/email and electronic schedule data file and a PDF plot file of the CPM Schedule Monthly Update to the department.

If additions or changes were made to the CPM Baseline Schedule since the previous update, submit an updated hard copy of the revised logic diagram as described above.

Within five business days of receiving each CPM Schedule Monthly Update, the department will provide comments and schedule a meeting as necessary to address comments raised in the department's review. Address the department's comments and resubmit a revised CPM Schedule Monthly Update within five business days after the department's request.

108.4.4.4 Three-Week Look-Ahead Schedules

Submit Three-Week Look-Ahead Schedules on a weekly basis, at the weekly construction meeting, after notice to proceed (NTP). The schedule can be hand drawn or generated by computer; however, the schedule activities must conform to the latest approved update. With each Three-Week Look-Ahead include:

• Activities underway and as-built dates for the past week.

• Planned work for the upcoming two-week period including lane closures and traffic switches.

• The activities of the Three-Week Look-Ahead schedule shall include the activities underway and critical RFIs and submittals, based on the CPM Progress Schedule. The

Three-Week Look-Ahead may also include details on other activities not individually represented in the CPM Progress Schedule. Indicate the controlling items of work.

• On a weekly basis, the department and the contractor shall agree on the as-built dates depicted in the Three-Week Look-Ahead schedule or document any disagreements. Use the as-built dates from the Three-Week Look-Ahead schedules for the month when updating the CPM Progress Schedule.

108.4.4.5 Weekly Production Data

Provide estimated and actual weekly production curves for items of work on a weekly basis for applicable items of work as determined by the department as follows:

1. Provide data on the following items by area or station:
    - Retaining Walls—SF per week
        - MSE Walls
        - Other Wall Types
    - Bridge Construction
        - Foundation Pile—each per week
        - Foundation/Substructure Concrete—CY per week
        - Structural Steel Girders – Each per week
        - Prestressed Concrete Girders—Each per week
        - Deck Formwork—SF per week
    - Roadway Excavation—CY per week
    - Roadway Embankment—CY per week
    - Roadway Structural Section
        - Grading/Subgrade Preparation—SY per week
        - Base Material Placement—Ton per week
        - Base Material Subgrade Preparation—SY per week
        - Asphaltic Base—Ton per week
        - Asphaltic and HMA Pavements—Ton per week
        - Concrete Pavement – SY per week
        - Concrete Pavement – CY per week

Note: Base material shall include all breaker run, base aggregate, subbase items or other base items included in the contract. Provide production information for each individual base material item.

2. For each item, indicate the actual daily production for the past week and the anticipated weekly production for the next week. Also include cumulative production curves showing the production information for each item to-date.

3. Submit the data in an electronic spreadsheet format at the same time the Three-Week Look-Ahead is submitted. On a weekly basis, the department and the contractor shall agree on the production data or document any disagreements.

108.4.5 Progress Review Meetings

108.4.5.1 Weekly Progress Review Meetings
After completing the weekly submittal of the Three-Week Look-Ahead and production data, attend a weekly meeting to review the submittals with the department. At the meeting, address comments as necessary, and document agreement or disagreement with the department.

108.4.5.2 Monthly Update Review Meetings
After submitting the monthly update and receiving the department's comments, attend a job-site meeting, as scheduled by the department, to review the progress of the schedule. At that meeting, address comments as necessary, and document agreement or disagreement with the department. The monthly meeting will be coordinated to take place on the same day and immediately before or after a weekly meeting, whenever possible.

108.4.6 CPM Schedule Revisions
108.4.6.1 Revision by the Contractor
If necessary, due to changes in the work or project conditions, and authorized by the department, the contractor may submit a revised CPM Schedule Monthly Update and/or CPM Baseline Schedule. Prepare the revised schedule(s) in the same format as required for the CPM Schedule Monthly Update and/or CPM Baseline Schedule. Include an updated written narrative, detailing all schedule modifications and justification for the changes. The process for comment and acceptance of the CPM schedule(s) revision will be the same as for a CPM Schedule Monthly Update and/or CPM Baseline Schedule. If the revised schedule(s) is accepted, prepare the next monthly update based on the revised CPM Schedule Monthly Update and/or CPM Baseline Schedule. If the revised schedule(s) is rejected, prepare the next monthly update based on the previous month's update.

108.4.6.2 Department's Right to Request Revisions
The department will monitor the progress of the work and may request revisions to the CPM Schedule Monthly Update and/or the CPM Baseline Schedule. Revise the schedule(s) as requested by the department, and submit a CPM Schedule Monthly Update and/or CPM Baseline Schedule revision within ten business days of the request. The process for comment and acceptance of the revised schedule(s) will be the same as for the CPM Schedule Monthly Updates and/or the CPM Baseline Schedule. The department may request schedule revisions for one or more of the following reasons:

• The project scheduled completion date(s) and/or interim completion date(s) are scheduled to occur more than 14 calendar days after the contract completion date.

• The department determines that the current schedule(s) is not an accurate record of the as-built work and/or is not an accurate forecast of the remaining work.

• A contract change order requires the addition, deletion, or revision of activities that causes a change in the contractor's work sequence or the method and manner of performing the work.

• Changes to the current update result in changes to the critical path.

108.4.7 Requests for Time Extension
In the event the contractor believes it is entitled to an extension of the contract completion date, or any interim milestone date, furnish the following for a determination by the department: justification, project schedule data, and supporting evidence as the department may deem necessary. Submission of proof of excusable delay, based on revised activity logic, duration, and costs (updated to the specific date that the delay occurred) is a condition precedent to any approvals by the department.

Justification of Delay
The project schedule shall clearly display that the contractor has used, in full, all the float time available for the work involved with this request.

The department's determination as to the number of allowable days of contract extension shall be based upon the project schedule updates in effect for the time period in question, and other factual information. Actual delays that are found to be caused by the contractor's own actions, which result in a calculated schedule delay, will not be a cause for an extension to contract completion date, or any interim milestone date.

Submission Requirements
Submit a justification for each request for a change in the contract completion date of less than 2 weeks based upon the most recent schedule update at the time of the NTP or constructive direction issued for the change. Such a request shall be in accordance to-the requirements of other appropriate Schedule Provisions and shall include, as a minimum:

• A list of affected activities, with their associated project schedule activity number.
• A brief explanation of the causes of the change.
• An analysis of the overall impact of the changes proposed.
• A sub-network of the affected area.

Identify activities impacted in each justification for change by a unique activity code.

Additional Submission Requirements
The department may request an interim update with revised activities for any requested time extension of over 2 weeks. Provide this data within 5 days of the department's request.

Not Considered Delays
The department will not grant time extensions to the interim completion dates as specified for the following:

• Delays in material deliveries.
• Labor disputes that are not industry wide.

108.4.8 Payment for CPM Baseline Schedule and CPM Schedule Monthly Updates

The department will pay for measured quantities at the contract unit price for work acceptably completed under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.001	CPM Baseline Schedule	Each
SPV.0060.002	CPM Schedule Monthly Updates	Each

The department will only make progress payments for the value of materials, as specified in standard spec 109.6.3.2.1, until the contractor has submitted the CPM Baseline Schedule. The department will retain ten percent of each estimate until the department accepts the CPM Baseline Schedule. Payment is full compensation for all work required under these bid items, including the three week look ahead. The department will pay the contract unit price for the CPM Baseline Schedule after the department accepts the schedule.

Thereafter, the department will pay the contract unit price for each CPM Schedule Monthly Updates that is accepted by the department. The department may, at its sole discretion, choose to suspend the requirement for one or more monthly updates. Should the requirement be suspended, the department shall give the contractor a minimum five work-day notice prior to the next scheduled update.
(NER41-20120313)

3. Meetings.

3.1 Pre-Bid Meeting.

Supplement standard spec 102.3.1 with the following:

Prospective bidders are invited to attend a pre-bid meeting on February 19, 2015 at 10:00 AM at WisDOT project field office, 1940 West Mason Street, Green Bay, WI 54303.

The meeting is not mandatory. No meeting minutes will be prepared. Issues discovered at the meeting which may impact the contract will be handled by addendum.

3.2 Leadership Partnering Meetings.

The department will implement mandatory leadership partnering meetings on this contract.

Key members of the contractor project team, major subcontractors' project team shall meet with department leadership on a bi-weekly or as needed basis. Attendance at this meeting shall include project level supervisory personnel, corporate/state level management personnel, and key project personnel of the contractor's principal subcontractors and suppliers. Project design engineers, FHWA, local government representatives, environmental regulators, emergency service personnel, utility companies, impacted business and/or landowners, and other stakeholders may also be invited to attend, as needed.

This meeting will facilitate communication between parties and review issues and issues resolution procedures, help resolve disputes timely, satisfactorily, and as near as possible to the originating level of the dispute.

All Leadership Partnering Meetings costs are incidental to the contract work.
(NER41-20101117)

3.3 Project Communication Enhancement Effort.

Use the Project Communication Enhancement Effort (PCEE) tools on this contract. Coordinate with the department to modify the various published tools as necessary to meet the particular project needs and determine how to implement those tools under the contract. Ensure the full participation of the contractor and its principal subcontractors throughout the term of the contract.

Forms and associated guidance are published in the PCEE Manual available at the department's Highway Construction Contract Information (HCCI) web site at:

http://roadwaystandards.dot.wi.gov/standards/admin/pcee-user-manual.doc

(NER41-20100201)

3.4 Traffic Meetings and Traffic Control Scheduling.

Every Wednesday by 10:00 AM, submit a detailed proposed 2-week look-ahead traffic closure schedule to the engineer. Type the detailed proposed 2-week look-ahead closure schedule into an excel spreadsheet provided by the engineer. Enter information such as closure dates, duration, work causing the closure and detours to be used. Also enter information such as ongoing long-term closures, emergency contacts and general 2-month look-ahead closure information into the excel spreadsheet.

As scheduled by the engineer, attend a traffic meeting. The meeting will bring local agencies, project stakeholders, owner managers, owner engineers, contractors, document control and construction engineering personnel together to discuss traffic staging, closures and general impacts. Upon obtaining feedback from the meeting attendees, edit, delete and add information to the detailed 2-week look-ahead closure schedule, as needed. Submit the revised 2-week look-ahead to the engineer.

Obtain approval from the engineer for any mid-week changes to the closure schedule. Revise the 2-week look-ahead as required and obtain engineer approval.
(NER41-20100201)

3.5 Coordination with Businesses.

The contractor shall arrange and conduct meetings between the department, local officials and business people to discuss the project schedule of operations including vehicular and

pedestrian access during construction operations. The first meeting shall be held prior to the start of work under this contract and as needed or directed by the engineer.
(NER41-20111018)

4. Alternative Dispute Resolution.

4.1 Contract Award and Execution.

Supplement standard spec 103 as follows:

103.9 Bid Escrow Documentation
The department will require the lowest responsible bidder to submit documentation to be placed in escrow at a document storage facility. Bid Escrow Documentation (BED) consists of writings, working papers, computer printouts, charts, and data compilations that contain or reflect information, data, calculations or assumptions used by the bidder to determine the proposal submitted. If the apparent low bid is withdrawn or rejected, the second low bidder will provide the required documents as specified below within 72 hours of written notification by the department.

The BED shall clearly itemize the contractor's estimated costs of performing the scope of work defined in the contract.

The BED shall include, but not be limited to, all quantity takeoffs, rate schedules for the direct costs of craft labor, construction (expendable materials), construction equipment ownership costs, construction equipment operating costs, permanent materials subcontractors and insurance. Also include development of rates of production including, where appropriate: estimate of crews, construction materials, construction equipment, and construction sequence and duration. Submit the BED for each subcontractor whose total subcontract costs exceed $500,000.

Identify the allocation of construction plant and equipment, time and non-time related indirect costs (including if applicable joint venture fees), home office overhead, contingencies and margin applicable to each bid item. Further, documentation shall include consultant's reports, final estimate adjustment calculations, and all other information used by bidders to arrive at the estimate.

Any manuals standard to the industry used by the bidder in determining the proposal are also considered part of the BED. These manuals may be included in the proposal documentation by reference and shall show the name and date of the publication and the publisher.

It is not necessary to include documents provided by the department for the bidder's use in the preparation of the proposal.

The low bidder shall present authentic copies of their BED at the department's office, located at 1940 West Mason Street, Green Bay, WI by March 13, 2015, at 10:00 AM.

At the time of submittal, only designated representatives of the apparent low bidder and the department will jointly examine the apparent low bidder's bid documentation to determine if it is authentic, legible, and generally meets the requirements of this special provision. The department will not share the BED information with, or in any other way divulge the contents of the apparent low bidder's BED to, their subcontractors or any other party.

The department, if requested by apparent low-bidder subcontractors, will also independently examine the BED submitted by the apparent low bidder's subcontractors in the same manner as the apparent low bidder's BED was examined. Only designated representatives of the individual subcontractor and the department will be present during this examination. The department will not share the BED information with, or in any other way divulge the contents of a subcontractor's BED to, the apparent low bidder or any other party.

The department's examination of the BED will not include review of, nor will it constitute approval of, proposed construction methods, estimating assumptions, or interpretation of the contract. The examination will not alter any conditions or terms of the contract. The department will determine if the BED complies with this special provision within 4 hours after the time the BED is submitted. If the BED does not meet the requirements of this special provision, the department may reject the bid.

If the BED of the apparent low bidder meets the requirements of this special provision, the department and bidder will jointly deposit the BED at an agreed document storage facility. Place the BED in a sealed envelope or container clearly marked with the bidder’s name and address, date of submittal, project name and identification number. Representatives of the department and the bidder will deliver all bid escrow documentation and the original affidavit directly to a document storage facility, to be placed in escrow.

If the apparent low bid is withdrawn or rejected, the designated representative of the second low bidder and the department will examine and inventory the bid documentation of the second low bidder and their subcontractors in the manner specified above, then seal and deposit in escrow. If a subcontractor with a subcontract exceeding $500,000 is replaced, the contractor shall submit new BED for examination and escrow before the engineer will authorize the substitution.

The department will pay for the costs of the escrow document storage facility and will provide escrow instructions to the document facility consistent with this special provision.

The department acknowledges that the bidder considers that the BED constitutes trade secrets or proprietary information. This acknowledgment is based upon department’s understanding that the information contained in the BED is not known outside each bidder’s business, is known only to a limited extent and by a limited number of employees of bidder, is safeguarded while in bidder’s possession, and may be valuable to

bidder's construction strategies, assumptions and intended means, methods and techniques of design and construction. Except as set forth in the contract or as required by applicable Law, the department acknowledges that the BED will remain in the possession of the Escrow Agent at all times and will at no time be received by, or become the property of, the department.

Submit a copy of the affidavit below, signed under oath before a Notary Public by a representative of the bidder authorized to execute proposals. Department representatives will sign the affidavit after reviewing the BED.

The BED will remain in escrow until:

1. The bidder and the department mutually agree to release of the BED;
2. A court orders the department to provide the BED;
3. A dispute is referred to the Dispute Review Board or claims review panel; or
4. Either party seeks judicial review of a dispute.

If any of the events numbered 1-4 above occurs, the department will take possession of all relevant portions of the BED, as determined by the department, until complete resolution of the issue for which the request was made or the court order was issued. In absence of such actions, and provided the bidder signs an appropriate release, the unopened BED will be released to the bidder upon final acceptance and the expiration of all warranty periods provided by this contract.

BID ESCROW DOCUMENTATION CERTIFICATION

Using this BID ESCROW DOCUMENTATION CERTIFICATION, the bidder certifies that the material submitted below constitutes all the documentary information used in preparation of the bid and that said bidder has fully examined the contents of the container and that they are complete. The undersigned Wisconsin Department of Transportation representatives have reviewed the BED for compliance.

	BIDDER	WITNESS
	(Name of Bidder)	(Name of Witness)
	By:	By:
	(Signature*)	(Signature*)
	Title	Date:
	Date	

	WISCONSIN DOT	WISCONSIN DOT
	(Name of Department Representative)	(Name of Department Representative)
	By:	By:
	(Signature*)	(Signature*)
	Title	Title:
	Date	Date:

(END OF BID ESCROW DOCUMENTS)

103.10 Mobilization Workshops

103.10.1 Workshop Schedule

After contract award, attend the following workshops. Each workshop is described below and will include but not be limited to the following topics.

	Workshop Schedule	Date
1.	Project Kickoff: Includes Initial Work Plan,	TBD
	Cost Reduction Incentives, Utility	TBD
	Coordination, Submittals and CPM Progress Schedule	
2.	Partnering (Initial Meetings)	TBD
3.	Notice to Proceed	TBD

If necessary, the engineer may modify the workshop schedule to ensure attendance by the necessary department and contractor personnel; however, all workshops will be completed prior to issuing the Notice to Proceed.

103.10.2 Workshop

103.10.2.1 Project Kickoff

103.10.2.1.1 General

The Project Kickoff Workshop will provide a forum to discuss and answer questions relative to the proposal, bid schedule, and other questions in the Project Questionnaire described in standard spec 103.10.2.1.2. The Initial Work Plan will include:

Contractor responses to the attached Project Questionnaire.

Department presentation of the use of CPM scheduling on the project and presentation of the department's Master Schedule to the contractor.

Contractor presentation of its conceptual work plan for the project.

Department and contractor discussion of the level of detail and features in the Initial Work Plan and the Baseline CPM Progress Schedule.

103.10.2.1.2 Project Questionnaire

Provide the following information in the order shown below. This information will constitute the "Project Questionnaire."

General Information

If a Joint Venture, provide information for each member of the Joint Venture.

1. Provide the following information about the company:
   - Firm Name
   - Address
   - Telephone and facsimile numbers; e-mail address
   - Contracting Specialties
   - Years performing work in contracting specialties
   - Geographic areas served

- Total management employees and years of service
  - Project managers
  - General superintendents
  - Craft superintendents
  - Engineers
  - Estimators
  - CPM Schedulers

Construction Engineering
Provide/attach a copy of your construction project manager's resume indicating the manager's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Provide (if applicable) your third-party construction engineering firms.

Provide plan for construction surveying

Subcontractors
Attach the list of all subcontractors that are intended for this project and the items of work they shall perform.

Permanent Material Suppliers
Attach the list of all permanent material suppliers that are intended for the project.

Quality Control (where applicable)
Provide the name of your construction quality control firm and qualifications indicating the firms' experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Provide/attach a copy of your construction quality control manager's resume indicating the manager's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

List the major elements and/or table of contents of your construction quality management program.

Provide the name of your independent quality control testing firm (construction quality control lab) and qualifications indicating the firm's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Organization Chart
Provide a functional and personnel organization chart showing the authority and responsibilities of each individual identified.

Work Rules
Provide the plan for hours per day, days per week, and number of shifts for key elements of work; i.e. retaining wall construction, roadway excavation, bridge structures, and roadway structural section activities.

Maintenance of Traffic
Provide the name of your traffic control manager and qualifications indicating the firm's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Include an outline of your approach to the maintenance of traffic and how you shall stage the construction to meet the substantial completion schedule.

Attach a copy of your preliminary schedule indicating your approach to achieving the substantial completion schedule.

Construction
Provide the approach (type of equipment, number of crews, and where required ground support systems) for the following activities:

- Retaining wall construction by type of work
- Bridge demolition
- Roadway structural section
- Roadway excavation
- Office and yard facilities

103.10.2.3 Cost Reduction Incentives
The Project Kickoff Workshop will identify value enhancing opportunities and consider modifications to the plans and specifications that will reduce either the total cost, time of construction or traffic congestion, without impairing, in any manner, the essential functions or characteristics of the project, including, but not limited to, service life, economy of operation, ease of maintenance, benefits to the traveling public, desired appearance, or design and safety standards.

The contractor may submit recommendations resulting from the workshop for approval by the engineer as cost reduction incentive proposals in conformance with the provisions in standard spec 104.10 "Cost Reduction Incentive,".

The department and the contractor may be able to complete the CRI concept process, as specified in standard spec 104.10.2, during the CRI workshop.

The contractor may submit CRIs after the CRI workshop that were not introduced at the CRI workshop.

103.10.2.4 Utility Coordination

The Project Kickoff Workshop will define the scope and schedule of utility relocation work and the respective rules and responsibilities of the project team.

1. At a minimum, the following key personnel will attend the Utility Coordination Meeting.
   - 1.1 Department's utility coordinator
   - 1.2 Contractor's utility coordinator
   - 1.3 Designer team's utility coordinator
   - 1.4 Key utility company representative(s)

2. At a minimum, the Utility Coordination Meeting will include a review of the following:
   - 2.1 Summary of all required utility relocations on the project.
   - 2.2 Special provisions addressing utility work.
   - 2.3 Sharing of contact information.
   - 2.4 Scheduling of work for utility relocation including critical milestones and staging for the work.

103.10.2.5 Submittals

The Project Kickoff Workshop will identify the key required submittals for the project, categorize submittals into functional areas, and develop a schedule for submittals and submittal reviews. The workshop participants will at a minimum:

1. Review the project special provisions.
2. Categorize submittals into functional areas including but not limited to:
   - 2.1 MSE retaining walls
   - 2.2 Temporary shoring
   - 2.3 Falsework and formwork
   - 2.4 Girder shop drawings
   - 2.5 Steel transportation, delivery and erection
   - 2.6 Structure demolition plans
   - 2.7 Pile hammers and high capacity piling
   - 2.8 Concrete/ Asphalt
   - 2.9 Materials
   - 2.10 ITS / Lighting
   - 2.11 Traffic signals
   - 2.12 Sanitary sewer and water
   - 2.13 Permits
3. Develop a schedule for submittals.

103.10.2.6 CPM Progress Schedule
The Project Kickoff Workshop will provide a forum to discuss department requirements for CPM scheduling and the development of the baseline CPM schedule. At a minimum, the CPM Progress Schedule Workshop will include:

1. Discussion of CPM scheduling best practices.
2. Contractor presentation of its Initial Work Plan and comments on the Master Schedule.
3. Department presentation of comments on the Initial Work Plan.
4. Discussion of finalization of the Initial Work Plan and development of the Baseline CPM Progress Schedule.

103.10.2.7 Partnering (Initial Session)
Prepare for and participate in the initial partnering session as specified in the article Partnering Meetings.

103.10.3 Payment for Mobilization Workshops
All mobilization workshop costs are incidental to the contract work.
(NER41-20110718)

4.2 Claims Process for Unresolved Changes.

Add the following to standard spec 105.13.2(2):

3. When filing the notice of claim, use the "Initial Notice Claim Record" form developed for the USH 41 corridor. The Initial Notice Claim Record establishes the claim nature and circumstances. The claim nature and circumstances must remain consistent. Request the form from the engineer.

Supplement standard spec 105.13.4(1) with the following:

When submitting the claim, use the "Final and Full Claim Record" form developed for the USH 41 corridor. Request the form from the engineer.

Supplement standard spec 105.13.5 with the following:

The department will conduct an initial review phase and a decision phase to resolve the claim in accordance to standard spec 105.13.5. At any point in these two phases, the department may waive its review and request a dispute review board (DRB).

Replace standard spec 105.13.5(4) with the following:

(4) In the appeal phase, the contractor will have up to 28 calendar days from the date of the region's decision to request a dispute review board hearing. If the contractor does not submit a written request to the region within those 28 days, the region's decision is final. If the region does not render a decision within the 28 calendar days specified in standard

spec 105.13.5(3), the region will forward the claim to the DRB as if the region had rejected the contractor's claim.

Replace standard spec 105.13.6 and 105.13.7 with the following:

105.13.6 Dispute Resolution
105.13.6.1 Definitions

Agreement Formal	Dispute Review Board Three-Party Agreement
Bureau	Bureau of Project Development
Contract	The construction contract between the prime contractor and Wisconsin Department of Transportation.
Contractor	Prime contractor
Department	Wisconsin Department of Transportation
Dispute	An issue, claim, change order request, or other controversy that remains unresolved following good faith negotiations between authorized representatives of the department and contractor.
Dispute Review Board	One or three neutral individuals mutually selected by the department and contractor to review disputes and render findings and recommendations based on the contract.
DRB	See Dispute Review Board.
Project Manager	Region project manager assigned to administer, oversee, and manage the project.
Regional Construction Oversight Engineer	Bureau of Project Development engineer assigned to the WisDOT region in which the claim or dispute originated.
Standard Specifications	State of Wisconsin Standard Specifications for Highway and Structure Construction – Edition in effect with contract.
WTBA	Wisconsin Transportation Builders Association

105.13.6.2 Dispute Review Board (DRB)
The purpose of a DRB is to resolve claims in a manner that complies with the contract, is impartial, and expedites the standard claims process. The DRB will do so by issuing recommendations that may be binding or non-binding depending on the claim amount.

It must be emphasized and firmly understood that individual DRB members are not the "representative of" or "advocate for" the party which selected them. The entire DRB will function as an objective, impartial, and independent body at all times. In order to avoid any suggestion of partiality, there should be no individual communication in regard to the project between DRB members and employees of the contractor or department during the life of the DRB. The parties shall direct any matters needing attention between members of the DRB to the chair of the DRB. The regional construction oversight engineer or their designee will engage the DRB process. The DRB will impartially consider the dispute(s) referred to it.

105.13.6.3 Selection of Members and Agreement for Services
The department and the contractor will cooperatively establish the DRB promptly after contract execution.

105.13.6.3.1 General
A three member DRB shall be established.

105.13.6.3.2 Experience
It is desirable that all DRB members be experienced with the construction process including design, construction, contract administration, contract law, and resolution of construction disputes.

It is not necessary that the DRB members be intimately familiar with the specific type of construction involved in the dispute. The DRB may consult technical and legal experts if the need arises under the terms of standard spec 105.13.6.4.6 Special Services described below.

All DRB members shall have attended the one-day DRB panel member workshop offered by the Dispute Review Board Foundation, or its substantial equivalent in other training, or shall be a qualified DRB panel member in another state which has training as a prerequisite to qualification for service on DRB panels.

105.13.6.3.3 Neutrality
It is imperative that the DRB members be neutral, act impartially, and be free of any conflict of interest.

The term "member" also includes the member's current primary or full-time employer, and "involved" means having a contractual relationship with either the department or the contractor, such as a subcontractor, architect, engineer, or construction manager.

105.13.6.3.4 Prohibitions; Disqualifying Relationships for Prospective Members
1. An ownership interest in any entity involved in the construction contract, or a financial interest in the contract, except for payment for services on this Dispute Review Board;

2. Previous employment by, or financial ties to, any party involved in the construction contract within a period of 6 months prior to award of the contract, except for fee-based consulting services on other projects;

3. A close professional or personal relationship with any key member of any entity involved in the construction contract which, in the judgment of either the department or the contractor, could suggest partiality; or

4. Prior involvement in the project of a nature that could compromise the prospective member's ability to participate impartially in the DRB's activities.

105.13.6.3.5 Prohibitions; Disqualifying Relationships for Members

1. Employment, including fee-based consulting services, by any entity involved in the construction contract.

2. Discussion concerning, or the making of, an agreement with any entity involved in the contract regarding employment after the contract is completed.

105.13.6.3.6 Disclosure Statement

As a part of the selection process, each prospective DRB member will be required to submit a complete disclosure statement for the approval of both the department and the contractor. Each statement shall include a resume of experience, together with a declaration describing all past, present, and anticipated or planned future relationships, including indirect relationships through the prospective member's primary or full-time employer, to this project and with the department or the contractor, or others involved in the contract, including subcontractors, suppliers, design professionals, and consultants. Disclosure of close professional or personal relationships with all key members of the department or the contractor or other parties involved in the construction contract shall be included.

105.13.6.3.7 Statewide Standing Roster

The department and WTBA have established a statewide standing roster of prequalified DRB members.

105.13.6.3.8 Selection Process

When establishing a 3-member DRB for a particular project or dispute, the department and the contractor will each select 1 DRB member. The two selected DRB members shall then jointly select a chair for the DRB. The disputing parties may mutually place restrictions on the chair selection. Any restriction agreed upon by the disputing parties will be communicated to the DRB members charged with selecting chair.

After being selected, DRB member(s) must submit an updated disclosure statement to the department and contractor for review and approval. DRB members do not need to be on the Statewide Standing DRB Roster in order to be selected. However, if a DRB member (chair or non-chair) is selected from outside the standing roster, the proposed DRB member must meet all the aforementioned criteria and disclosure requirements and both disputing parties must approve the selection.

If a party disputes the qualification of a proposed DRB member (from the Statewide Standing DRB Roster or from outside the Roster), the disputing party shall identify what disqualifies the proposed neutral. The department and the contractor shall then jointly determine whether the candidate will be accepted on the DRB. If the candidate is rejected, the party responsible for the selection shall select another candidate and again seek approval from the other party(s).

105.13.6.3.9 Tenure of DRB
Once a DRB is engaged on a project, the DRB will be deemed established for any subsequent disputes that may require a DRB in accordance to standard spec 105.13 of the Standard Specifications.

The DRB will be dissolved as of the date of final payment to the contractor unless earlier terminated or dissolved by mutual agreement of the department and contractor.

105.13.6.3.10 Three-Party Agreement
After DRB member selections have been made, the DRB member(s) and authorized representatives of the department and the contractor shall execute the Formal Dispute Review Board Three-Party Agreement that sets forth the terms and conditions that apply to services provided by the DRB including procedures for standard operation of the DRB, use of the DRB in an advisory role, periodic site visits, and any other pertinent terms. The department, contractor, and all three DRB members will execute the DRB agreement within 14 calendar days after the selection of the chairperson. Payment for the DRB shall be in accordance to standard spec 105.13.7.

105.13.6.4 Operation
In general, the DRB will operate in accordance to the guidelines established. However, it is not desirable to adopt hard and-fast rules for the functioning of the DRB. The entire procedure shall be kept flexible to adapt to changing situations. The DRB shall initiate, with the department's and contractor's concurrence, new procedures or modifications to existing procedures whenever this is deemed beneficial and appropriate.

The department and the contractor will cooperate to ensure that the DRB considers disputes promptly, taking into consideration the particular circumstances and the time required to prepare appropriate documentation.

Procedures and time periods may be modified by mutual agreement of the disputing parties.

105.13.6.4.1 Contract Documents, Reports and Information
The department will provide a set of plans and specifications to each DRB member. The department and contractor will provide the DRB requested reports, documents or other information needed to completely understand and review the dispute. The DRB may not request reports, documents, or other information that are not normally generated by the department or the contractor in the course of construction of the project.

105.13.6.4.2 Scheduling Review
The regional construction oversight engineer and DRB chair shall schedule the hearing. The DRB will set a date and location for a hearing no earlier than 30 calendar days but no later than 60 calendar days after the receipt of a written request for a DRB hearing.

After conferring with both the department and the contractor, the DRB Chairperson will establish a submittal schedule so that adequate time is allowed for the each party to address the other party's statements and supporting documentation before the presentation.

105.13.6.4.3 Pre-presentation Requirements

Concise written position statements shall be prepared by both the department and the contractor, with page number references to any supporting documentation. The position statement shall be submitted to each DRB member and to the other party. Submit one copy to each DRB member and 3 copies to the other disputing party at least 14 calendar days prior to the DRB hearing. Both parties will be allowed to amend or append information to their position statement up to 7 calendar days prior to the hearing. Any amendments or appendages shall be copied to the involved parties as prescribed for the position statement.

In large dollar amount disputes or disputes involving complex issues, the DRB may meet privately to review the information provided, discuss the procedures to be followed in hearing the dispute and the method of presentation to be followed. The DRB may also call a pre-meeting conference to discuss procedures with both the department and the contractor.

At least 7 calendar days prior to the date scheduled for a hearing, each party must submit to the DRB Members and to the other party a list of the persons who will attend and/or represent them at the hearing.

105.13.6.4.4 Presentation

Unless otherwise agreed by the DRB, the department, and the contractor, the presentation will be conducted at the nearest department region office. However, any location that would be more convenient and still provide all required facilities and access to necessary documentation is satisfactory.

The department and the contractor shall have representatives at all presentations. The DRB will establish which party will make its presentation first. The department and the contractor will be allowed successive rebuttals until all aspects are fully covered. The DRB members and the department and the contractor may ask questions, request clarification, or ask for additional data. All questions from the department or contractor shall be directed to the DRB; cross examination will not be allowed. In difficult or complex cases, additional presentations may be necessary in order to facilitate full consideration and understanding of all the evidence presented by both the department and the contractor. Both the department and the contractor shall be provided adequate opportunity to present their evidence, documentation, and testimony regarding all issues before the DRB.

Unless otherwise agreed by the department and the contractor, presentations will relate to issues of entitlement only. When the department and the contractor agree that the DRB will review or give guidance on issues of quantum as well as entitlement, both the

department and the contractor will complete their presentations on entitlement before quantum is presented.

Normally, a formal transcript of the presentations will not be prepared. When requested by either the department or the contractor, the DRB may allow recordation and transcription by a court reporter with the cost to be allocated as agreed by the department and the contractor. Such transcript, when prepared, shall not constitute the official record of the DRB Review. The record prepared by the DRB shall be the official record of the DRB Review. The DRB may provide for audio or video recordings of the presentations for the use of the DRB only.

The department and the contractor may have their attorneys or other representatives in attendance at the presentations to counsel and advise them. When agreed by the department and the contractor, the representatives will be allowed to make brief opening and closing remarks to the DRB, but are not allowed to present project specific details. No other participation by attorneys at the presentations will be permitted except by mutual agreement of the department and the contractor.

If either the department or the contractor fails to appear before the DRB on the date scheduled for the presentations, without justifiable cause, the party that was absent will be liable for any and all additional costs attributable to the cancellation of the hearing.

105.13.6.4.5 Deliberations

After the presentation is concluded, the DRB will confer to formulate its findings and recommendations. All DRB deliberations shall be conducted in private, with all individual views kept strictly confidential from disclosure to others.

105.13.6.4.6 Special Services

If at any time in the DRB process, the DRB believes that assistance from a technical expert or specialist is necessary or would facilitate resolution of the dispute, the DRB may request permission to retain such services. The DRB will provide to the department and contractor a written request detailing the following:

- Services desired
- Benefit of services requested
- Proposed service provider
- Qualifications of proposed service provider; and
- Estimated fees for requested services

The department and contractor must mutually agree to such assistance and approve the proposed service provider.

105.13.6.4.7 Claims by the Subcontractor

If the contractor’s claim includes one or more subcontractor claims, the contractor shall ensure that an authorized representative with actual knowledge of the facts underlying the subcontractor claim assists in presenting the subcontractor’s claim and answering questions raised by the DRB members or the department’s representatives.

105.13.6.4.8 Findings and Recommendations
After all DRB hearings are concluded the DRB will formulate findings and recommendations. The DRB will conduct private and confidential deliberations and attempt to reach a unanimous decision. The DRB will base its findings and recommendations on the terms of the contract documents, established principles of law, statutes and regulations, the facts and circumstances of the claim, and the information provided by the parties.

Within 28 calendar days of the hearings the DRB will issue its final findings and recommendations. Claims resulting in a decision involving $250,000 or less will be binding on the parties to the extent permitted by Wisconsin law. For claims resulting in a decision involving more than $250,000, if accepted by the parties, the department will process the DRB decision for approval and will promptly process any required contract changes.

If the three-member DRB is unable to reach unanimity in its findings and recommendations, the DRB will so advise the department and the contractor in the report of the DRB. A dissenting member may, at his/her discretion, prepare a minority report to be included with the DRB report.

105.13.6.4.9 Further Action on Decisions Exceeding $250,000
Each party will have 45 calendar days from receipt of a final decision of the DRB exceeding $250,000 to accept or reject, in writing, the decision. If either party fails to accept or reject, in writing, that final decision of the DRB within 45 calendar days of receipt of such decision, the DRB will notify the parties that non-response is considered to be acceptance of that decision and further administrative or judicial review will be barred. Provide notice of acceptance or rejection of the final decision to the DRB in a manner and form prescribed by the DRB. The DRB will reject any notice on a final decision not filed by either party in a timely manner. This 45-day appeal period may be extended if agreed to in writing prior to the 45-day expiration period.

105.13.6.4.10 Advisory Dispute Review Board
As an alternative to the standard DRB process, the department may elect to use the DRB in an advisory role to expedite the resolution of a dispute or claim. The DRB may review and hear disputes or claim issues during a regularly scheduled site visit. The DRB will offer its advice either during or promptly after the site visit.

105.13.7 Payment for DRB
DRB members shall be compensated as prescribed in the Agreement.

The department and the contractor shall bear the costs and expenses of the DRB equally. Each DRB member shall be compensated and reimbursed expenses as prescribed in the Agreement executed by the department, contractor, and DRB member.

If the DRB desires special services such as legal, technical, or other expert assistance or testimony, or other consultation, accounting, data research, and the like, both the department and the contractor must agree to the special services. When both parties agree to special services, the procedures described in standard spec 105.13.6.4.6 Special Services of this document will be followed.

The department will provide, at no cost to the contractor, administrative services such as coordination of the DRB and state owned conference facilities. If other facilities and/or amenities are desired by both parties, these facility and amenity expenses shall be shared equally by both parties.

The following payment procedures will be used:

1. The DRB members shall submit invoices to the regional construction oversight engineer for review.

2. After the regional construction oversight engineer has reviewed and approved the invoices, the invoices will be forwarded to the project manager for review and approval.

3. After the project manager has reviewed and approved the invoices, the invoices will be forwarded to the contractor for review and approval.

4. If the contractor approves the invoices, the contractor shall make payment of all approved invoices.

5. The contractor shall provide the project manager documentation verifying payment.

6. The department will then execute a change order to pay the contractor one-half of the contractor paid invoice.

There will be no markups applied to expenses connected with the DRB, either by the DRB members or by the contractor when requesting payment of the department's share of DRB expenses. Regardless of the DRB recommendation, neither the department nor the contractor shall be entitled to reimbursement of DRB costs from the other party.

Department’s payment to contractor for accepted work will be made as follows:

Pay Item Dispute Review Board
Pay Unit Dollar

These procedures and the Agreement contain all of the provisions for compensation and expenses of the DRB.
(NER41-20110718)

5. Insurance.

5.1 Bidding Instructions for Insurance.

The department will implement, an Owner Controlled Insurance Program (OCIP) for this contract as described in the:

- Owner Controlled Insurance Program Article
- USH 41 Corridor Project OCIP Insurance Manual
- USH 41 Corridor Project Safety Manual
- USH 41 Corridor Project Claims Manual

Do not include in your bid the "cost of OCIP coverage's" and as specified in section 107.26(1)(a)9 of the OCIP article. The "costs of OCIP coverage's" are described in the USH 41 Corridor Project OCIP Insurance Manual.

The USH 41 Corridor Project OCIP Insurance Manual and the Safety Manual contain minimum safety requirements that meet or exceed those required by law, and they include special requirements for the following programs:

- Substance Abuse Program
- Return to Work Program

Enroll and maintain enrollment in the OCIP. Enroll in the OCIP within five days of executing the contract.

Obtain and maintain insurance coverage's in addition to the OCIP as specified in section 107.26(1)(a)8 of the OCIP article.

Ensure that subcontractors, both those enrolled in and excluded from the OCIP, obtain and maintain insurance coverage's in addition to the OCIP as specified in section 107.26(1)(a) 8 of the OCIP article.
(NER41-20100426).

5.2 Owner Controlled Insurance Program.

Standard spec 107.26, "Standard Insurance Requirements" is deleted in its entirety and the following standard spec 107.26 is substituted thereof:

107.26 Standard Insurance Requirements
107.26(1)(a) Owner Controlled Insurance Program

1. **Overview**. The State of Wisconsin, Department of Transportation ("the WisDOT") has arranged with Aon Risk Services Central, Inc., (the "OCIP administrator") for this Project to be insured under its Owner Controlled Insurance Program ("OCIP"). The OCIP is more fully described in the USH 41 North-South Corridor manual for

the Owner Controlled Insurance Program (the "Insurance Manual") and the Safety and Health Plan Manual that are incorporated in this Special Provision and the Contract by this reference. Parties performing labor or services at the Project are eligible to enroll in the OCIP unless the party is an excluded party (as defined below). The OCIP will provide to enrolled parties(as defined below) Workers' Compensation and Employer's Liability insurance, Commercial General Liability insurance, and excess liability insurance as summarily described below in connection with the performance of the Work ("OCIP coverage's").

2. **Enrolled Parties and Their Insurance Obligations.** OCIP coverage applies only to Enrolled Parties. Enrolled Parties include the WisDOT and its employees, eligible Contractors and Subcontractors who enroll in the OCIP, and such other persons or entities that the WisDOT, in its sole discretion, may designate (each such party who is insured under the OCIP is collectively referred to as an " Enrolled Party"). Enrolled Parties shall obtain and maintain, and shall require each of its Subcontractors to obtain and maintain, the insurance coverage specified in 107.26(1)(a) 8 below.

3. **Excluded Parties and Their Insurance Obligations.** OCIP coverage's do not apply to the following "Excluded Parties":

   a. Hazardous materials remediation, removal and/or transport companies;

   b. Vendors, suppliers, fabricators, material dealers, truckers, haulers, drivers and others who merely transport, pickup, deliver, or carry materials, personnel, parts or equipment or any other items or persons to or from the Project;

   c. Contractors and each of their respective Subcontractors who do not perform any actual labor on the Project site;

   d. Any party or entity not specifically identified in this special provision or excluded by the WisDOT as permitted by law, even if otherwise eligible.

   Excluded Parties and parties no longer enrolled or covered by the OCIP shall obtain and maintain, and shall require each of its Subcontractors to obtain and maintain, the insurance coverage specified in Section 107.26(1)(a) 8 below and in the Insurance Manual. Excluded Parties shall comply with all of the safety requirements pursuant to 107.26(1)(a) 16.

4. **OCIP Insurance Policies Establish OCIP coverage's**. The OCIP coverage's and exclusions summarized in this special provision and the other contract documents are set forth in full in their respective insurance policy forms. The summary descriptions of the OCIP coverage's in this special provision or the Insurance Manual are not intended to be complete or to alter or amend any provision of the actual OCIP coverage's. In the event any provision of this special provision, the Insurance Manual, the contract documents, or the summary below conflicts with the OCIP insurance policies, the provisions of the actual OCIP insurance policies shall govern.

5. **Summary of OCIP Coverage's**. OCIP coverage's will apply only to those operations of each Enrolled Party performed at the Project site, as defined in the OCIP insurance policies, in connection with the Work and only to Enrolled Parties that are eligible for the OCIP. OCIP coverage's will not apply to Excluded Parties, even if erroneously enrolled in the OCIP. An Enrolled Party's operations away from the Project site, including product manufacturing, assembling, or otherwise, will only be insured if such "off-site" operations are identified, endorsed onto the OCIP policies, and are dedicated solely to the Project. Contractor may request such "off-site" operations to be insured in writing to WisDOT; however, OCIP coverage's will not insure "off-site" operations until the OCIP policies have been endorsed to insure such "off-site" location. The decision to insure "off-site" operations shall be determined by WisDOT and the OCIP insurer.

   The OCIP coverage's are primary insurance for all on-site operations of eligible and Enrolled Parties. The OCIP will provide only the following insurance to eligible and Enrolled Parties:

   Summary Only

   a. Workers' Compensation insurance - Statutory Limit including Jones Act and USL&H coverage, as applicable.

   b. Employer's Liability insurance

      i. Bodily Injury by Accident, each accident $1,000,000
      ii. Bodily Injury by Disease, each employee $1,000,000
      iii. Bodily Injury by Disease, policy limits $1,000,000

   c. Commercial General Liability (ISO Occurrence Form – Limits Shared By All Insureds)

      i. Each Occurrence Limit $2,000,000 (Annual Limit)

      ii. General Aggregate Limit for all Enrolled Parties $4,000,000 (Annual Limit)

      iii. 10 yr. Products and Completed Operations Extension

      iv. Products and Completed Operations Aggregate for all Enrolled Parties $4,000,000(Single Limit Applies to Entire Products and Completed Operations Extension)

   d. The OCIP Commercial General Liability policy will not provide coverage for any claim that could be covered under a property policy or Builder's Risk policy.

   e. Excess Liability insurance (over Employer's Liability and General Liability – Limits Shared By All Insureds)

      Each Occurrence Limit $150,000,000

      Aggregate $150,000,000 (Annual Limit)

      $150,000,000 Products and Completed Operations Aggregate Limit (Single Limit Applies to Entire Products and Completed Operations Extension).

6. **The WisDOT's Insurance Obligations.** The WisDOT will pay the costs of premiums for the OCIP coverage's. The WisDOT will receive or pay, as the case may be, all adjustments to such costs, whether by way of dividends, retroactive adjustments, return premiums, other moneys due, audits or otherwise. Each Contractor and each of its Subcontractors hereby assign to the WisDOT the right to receive all such adjustments. The WisDOT assumes no obligation to provide insurance other than that specified in this special provision and the OCIP insurance policies. The WisDOT's furnishing of OCIP coverage's will in no way relieve or limit, or be construed to relieve or limit, contractor or any of its Subcontractors of any responsibility, liability, or obligation imposed by the contract documents, the OCIP insurance policies, or by law, including without limitation any indemnification obligations which contractor or any of its Subcontractors has to the WisDOT there under. The WisDOT reserves the right at its option, without obligation to do so, to furnish other insurance coverage of various types and limits provided that such coverage is not less than that specified in the contract documents.

7. **Contractor's OCIP Obligations.** Contractor shall:

   a. Incorporate the terms of this special provision in all subcontract agreements.

   b. Enroll in the OCIP within five (5) business days of execution of the contract and maintain enrollment in the OCIP, and assure that contractor's eligible Subcontractors enroll in the OCIP and maintain enrollment in the OCIP within five (5) business days of subcontracting and prior to the commencement of their Work at the Project site.

   c. Comply with all of the administrative, safety, insurance, and other requirements outlined in this special provision, the Insurance Manual, the OCIP insurance policies, the Safety and Health Plan Manual, or elsewhere in the contract documents.

   d. Provide each of its Subcontractors with a copy of the Insurance Manual and ensure Subcontractor compliance with the provisions of the OCIP insurance policies, the Insurance Manual, this special provision, and the contract documents. The failure of (a) the WisDOT to include the Insurance Manual in the bid documents or (b) Contractor to provide each of its eligible Subcontractors with a copy of same, shall not relieve contractor or any of its Subcontractors from any of the obligations contained therein.

   e. Acknowledge, and require all of its Subcontractors to acknowledge in writing, that the WisDOT and the OCIP administrator are not agents, partners or guarantors of the insurance companies providing coverage under the OCIP (each such insurer, an "OCIP insurer") and that the WisDOT is not responsible for any claims or disputes between or among contractor, its Subcontractors, and any OCIP insurer(s). Any type of insurance coverage or limits of liability in addition to the OCIP coverage's that contractor or any Subcontractor requires for its or their own protection, or that is required by applicable laws or regulations, shall

be contractor's or its Subcontractor's sole responsibility and expense and shall not be billed to the WisDOT.

f. Cooperate fully with the OCIP administrator and the OCIP insurers, as applicable, in its or their administration of the OCIP.

g. Provide, within five business days of the WisDOT's or the OCIP administrator's request, all documents or information as requested of contractor or its Subcontractors. Such information may include but not be limited to, payroll records, certified copies of insurance coverage's, declaration pages of coverage's, certificates of insurance, underwriting data, prior loss history information, safety records or history, OSHA citations, or such other data or information as the WisDOT, the OCIP administrator, or OCIP insurers may request in the administration of the OCIP, or as required by the Insurance Manual.

h. Pay to the WisDOT's designee within five (5) days of written notification, a sum of up to $ 10,000 of each claim, including court costs, attorneys fees and costs of defense for property damage to the extent losses are insured under the OCIP Commercial General Liability policy for those losses that are attributable to contractor's Work, acts or omissions, or the Work, acts or omissions of any of its Subcontractors, or any other entity or party for whom contractor may be responsible ("contractor General Liability obligation"). The contractor General Liability obligation will not be insured by the OCIP Coverage's.

8. Additional Insurance Required From Enrolled Parties and Excluded Parties. Contractor shall obtain and maintain, and shall require each of its Subcontractors of every tier to obtain and maintain, the insurance coverage specified in this Section 107.26(1)(a) 8 in a form and from insurance companies reasonably acceptable to the WisDOT. The insurance limits may be provided through a combination of primary and excess policies, including the umbrella form of policy. The insurance required by this Section 107.26(1)(a) 8 shall conform to the WisDOT's requirements outlined in the Insurance Manual and be written by companies authorized to do business in the State of Wisconsin, and Illinois if applicable, with an AM Best rating of A- or better. Contractor shall provide certificates of insurance coverage to the WisDOT as required below and by the Insurance Manual. As to eligible and Enrolled Parties, the Workers' Compensation, Employer's Liability, and Commercial General Liability insurance required by this section shall only be for off-site activities or operations not insured under the OCIP coverage's. The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.

TYPE OF INSURANCE MINIMUM LIMITS REQUIRED

1. Commercial General Liability insurance shall be endorsed to include blanket contractual liability coverage.

   a. $2 Million Combined single limits per occurrence with an annual aggregate limit of not less than $4 Million.

b. The OCIP Coverage's shall exclude blasting or explosion operations. If blasting or explosion operations are used in connection with the Work, Commercial General Liability insurance shall not contain an exclusion for blasting or explosion and shall be provided in limits established by the WisDOT at the time such blasting or explosion methods are elected. Such coverage shall apply to operations whether the operations occur on the Project site or away from the Project site.

c. Commercial General Liability insurance shall be maintained in force for two (2) years following completion and the WisDOT's acceptance of the work.

d. Wisconsin Department of Transportation, their respective officers, agents and employees, and any additional entities as the WisDOT may request as additional insureds must be named as an Additional Insured which shall include: i) liability arising out of the Work performed by the named insured; ii) liability arising out of the supervision of the Work performed by or operations of the named insured; and iii) liability of the acts or omissions of the Additional Insureds relating to Work performed by the named insured for the Project, except for sole negligence of the Additional Insureds iv) will state that coverage is afforded on a primary and non-contributory basis.

2. Workers' Compensation and Employer's Liability insurance.

   a. Workers' Compensation limits: statutory limits

   b. Employer's Liability limits:

      i. Bodily injury by accident: $100,000 each accident
      ii. Bodily injury by disease: $500,000 policy limit
      iii. Bodily injury by disease: $100,000 each employee

3. Commercial automobile liability insurance as specified by Insurance Services Office (ISO), form CA 00 01, symbol 1 (any auto) with the following limits and endorsements:

   a. No Trucking or Hauling: $1,000,000 Each Accident

   b. Trucking or Hauling (Non Hazardous Materials): $2,000,000 Each Accident

   c. Trucking or Hauling Hazardous Materials: $5,000,000 Each Accident with an MCS 90 Endorsement and ISO Endorsement CA 99 48.

4. For any work over water, whether deemed navigatable or otherwise, contractors Pollution Liability insurance with $2,000,000 per occurrence and $2,000,000 aggregate policy limits.

5. Aviation and/or Watercraft Liability insurance, as appropriate, including hull and protection and indemnity for watercraft, or other insurance, in form and with limits of liability and from an insuring entity reasonably satisfactory to the WisDOT.

Contractor's failure to procure or maintain the insurance required by this 107.26(1)(a)8 and to assure all its Subcontractors of every tier maintain the required insurance during the entire term of the contract shall constitute a material breach of

this contract under which the WisDOT may immediately suspend or terminate this contract or, at its discretion, procure or renew such insurance to protect the WisDOT's interests and pay any and all premiums in connection therewith, and withhold or recover all monies so paid from the contractor.

Contractor shall provide the WisDOT with certificates of insurance as evidence that required coverage's for insurance detailed in this section are in force. The bidder shall provide certificates of insurance in their pre-qualification statement as specified in 102.1.

Contractor shall notify the WisDOT at least 60 calendar days before a cancellation or material change in coverage and only obtain coverage from insurance companies licensed to do business in the state that have an AM Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The WisDOT will make no additional or special payment for providing insurance.

The above insurance requirements shall apply with equal force whether the contractor or a Subcontractor, or anyone directly or indirectly employed by either, performs the work under the Project.

9. **Contractor Representations and Warranties to the WisDOT.** Contractor represents and warrants to the WisDOT or behalf of itself and its Subcontractors:

   a. That all information it submits to the WisDOT or the OCIP administrator shall be accurate and complete.

   b. That contractor, on behalf of itself and its Subcontractors, has had the opportunity to read and analyze copies of the OCIP binders and specimen policies that are on file in the WisDOT's office. Any reference or summary in the contract, this special provision, the Insurance Manual, or elsewhere in any other contract document as to amount, nature, type or extent of OCIP coverage's and/or potential applicability to any potential claim or loss is for reference only. Contractor and its Subcontractors have not relied upon said reference but solely upon their own independent review and analysis of the OCIP coverage's in formulating any understanding and/or belief as to amount, nature, type or extent of any OCIP coverage's and/or its potential applicability to any potential claim or loss.

   c. That the costs of OCIP coverage's were not included in contractor's bid or proposal for the Work, the contract price, and will not be included in any change order, change modification, or any request for payment for the Work or extra work. The "costs of OCIP coverage's" is defined as the dollar amount of premiums, costs and fees the contractor and its Subcontractors would have paid its insurance carrier to insure the operations and exposures which are being insured under the OCIP.

d. That contractor acknowledges that the WisDOT will not pay or compensate contractor or any Subcontractor, in any manner, for costs of OCIP coverage's or for "insurance costs" except as specifically required to be maintained by contractor by the terms of this special provision.

10. **Audits.** Contractor agrees that the WisDOT, the OCIP administrator, and/or any OCIP insurer may audit contractor's or any of its Subcontractor's Project payroll records, books and records, insurance coverage's, insurance cost information, or any other information that contractor provides to the WisDOT, the OCIP administrator, or the OCIP insurers to confirm their accuracy and to assure that costs of OCIP coverage's are not included in any payment for the work.

11. **The WisDOT's Election to Modify or Discontinue OCIP.** The WisDOT may, for any reason, modify the OCIP coverage's, discontinue the OCIP, or request that contractor or any of its Subcontractors withdraw from the OCIP upon thirty (30) days written notice. Upon such notice contractor and/or one or more of its Subcontractors, as specified by the WisDOT in such notice, shall obtain and thereafter maintain at the WisDOT's expense, Contractor Maintained Coverages (or a portion thereof as specified by the WisDOT) of the OCIP coverage's. The form, content, limits of liability, cost, and the insurer issuing such replacement insurance shall be subject to the WisDOT's approval.

12. **Withhold of Payments.** The WisDOT may withhold from any payment owing to contractor the costs of OCIP coverage's if included in a request for payment. In the event the WisDOT audit of contractor's records and information as permitted in the Contract, this special provision, or other contract documents reveals a discrepancy in the insurance, payroll, safety, or any other information required by the contract documents to be provided by contractor to the WisDOT, or to the OCIP administrator, or reveals the inclusion of costs of OCIP coverage's in any payment for the work, the WisDOT will have the right to full deduction from the Contract Price of all such costs of OCIP coverage's and all audit costs. Audit costs will include but not be limited to the fees of the OCIP administrator, and the fees of attorneys and accountants conducting the audit and review. If the contractor or its Subcontractors fail to timely comply with the provisions of this special provision or the requirements of the Insurance Manual, the WisDOT may withhold any payments due contractor and its Subcontractors until such time as they have performed the requirements of this special provision. Such withholding by the WisDOT will not be deemed to be a default hereunder.

13. **Waiver of Subrogation.** Where permitted by law, contractor hereby waives all rights of recovery under subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against the WisDOT, the State of Wisconsin and any of its Agencies or Officer's, Agents or employees including without limitation, the OCIP administrator, its or their officers, agents, shareholders or employees of each, if any, and any other contractor or Subcontractor performing work or rendering services on behalf of the

WisDOT in connection with the planning, development and construction of the Project. Where permitted by law, contractor shall also require that all contractor maintained insurance coverage related to the work include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against contractor together with the same parties referenced immediately above in this section. Contractor shall require similar written express waivers and insurance clauses from each of its Subcontractors. A waiver of subrogation shall be effective as to any individual or entity even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

14. **Duty of Care**. Nothing contained in this special provision or the Insurance Manual shall relieve the contractor or any of its Subcontractors of their respective obligations to exercise due care in the performance of their duties in connection with the work and to complete the work in strict compliance with the contract documents.

15. **Conflicts**. In the event of a conflict, the provisions of this special provision shall govern, then the provisions of the contract and its other related contact documents, then the provisions of the Insurance Manual.

16. **Safety.** Contractor shall be solely responsible for safety on the Project and safety relating to the Work. Contractor shall establish a safety program that, at a minimum, complies with all local, state and federal safety standards, and any safety standards established by the WisDOT for the Project, including the Project Safety and Health Plan Manual.

(NER41-20090128)

6. Environmental.

6.1 Environmental Protection.

Supplement standard spec 107.18 follows:

Wetlands

The contractor shall not disturb nor store materials or topsoil within the nearby wetlands as shown on the erosion control sheets unless areas are designated to be filled or impacted as permitted in the project's U.S. Army Corps of Engineers Section 404 Permit. The work area shall be separated from the wetlands by silt fence, as shown on the plans, to avoid siltation and inadvertent fill into the wetland areas.

Phragmites, an invasive species plant, exists within the USH 41 corridor. All soils outside of the median areas along USH 41 containing plant or root fragments that will be disturbed as part of the work within the contract shall be incorporated into the salvaged topsoil within the immediate area of the work. All soils containing plant or root fragments that will be excavated as part of the work within the USH 41 median areas, areas as shown on the plans, or from areas designated by the engineer shall be deposited at a waste site

designated on the project. Excavation and waste of Phragmites infested soil from the median areas, other areas shown on the plans, and any other areas that may be approved by the engineer that is deposited at the designated waste site will be paid for under the Excavation of Phragmites Soil item. All waste sites are subject to review and approval by the department and shall be suitable for the waste of material containing Phragmites. Waste material shall be placed in upland locations in the general area where the plant currently exists. All other areas where Phragmites soil is left on site will be paid for as Salvaged Topsoil.

For all equipment that comes into contact with Phragmites infested areas, follow the guidelines established under the Environmental Protection, Aquatic Exotic Species Control section of this special provision for inspection and cleaning of equipment prior to leaving the project site. Additional information on this plant can be found at the following website: www.dnr.wi.gov/invasives/plants.asp.

Dewatering
If dewatering is required, treat the water to remove suspended solids before allowing it to enter any waterway or wetland. Provide a sedimentation basin with sufficient capacity and size to provide an efficient means to filter the water from the dewatering operation before it is discharged back into the waterway or wetland as provided in the standard specifications and these special provisions. As part of the Erosion Control Implementation Plan (ECIP) submittal, supply all pertinent information and calculations used to determine the best management practice for dewatering at each location it is required.

Refer to the dewatering guidelines of WisDNR Storm Water Management Technical Standards, Code #1061, "Dewatering". This document can be found at the WisDNR website: http://dnr.wi.gov/runoff/stormwater/techstds.htm

The cost of all work and materials associated with water treatment and/or dewatering is incidental to the bid item "Sedimentation Basin".
(NER41-20110317)

6.2 Environmental Protection, Emerald Ash Borer.

The emerald ash borer (EAB) has resulted in a quarantine of ash trees (Fraxinus, sp) by the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) and the Wisconsin Department of Natural Resources (DNR).

Ash trees include the following species:

Green ash (F. pennsylvanica) is found throughout the state, but is most common in southern Wisconsin. It may form pure stands or grow in association with black ash, red maple, swamp white oak, and elm. It grows as an associate in upland hardwood stands, but is most common in and around stream banks, floodplains, and swamps.

Black ash (F. nigra) is distributed over the entire state but is most frequently found in northern Wisconsin. It is most common in swamps, but is also found in other wet forest types.

Blue ash (F. quadrangulata) is a threatened species that is currently found only at a few sites in Waukesha County. The species is at the edge of its range in Wisconsin, but is common in states farther south. The species is not of commercial importance.

Mountain ash (Sorbus Americana and S. decora) is not a true ash and is not susceptible to EAB infestation.

Follow and obey the following Wisconsin Department of Agriculture, Trade, and Consumer Protection order:

ATCP 21.17 Emerald ash borer; import controls and quarantine.

IMPORTING OR MOVING REGULATED ITEMS FROM INFESTED AREAS; PROHIBITION. Except as provided in sub. (3), no person may do any of the following:

(a) Import a regulated item under sub. (2) into this state if that item originates from an emerald ash borer regulated area identified in 7CFR 301.53-3.

(b) Move any regulated item under sub. (2) out of an emerald ash borer regulated area that is identified in 7CFR 301.53-3 and located in this state.

Note: the United States Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS) periodically updates the list of regulated areas in 7CFR 301.53-3. Subsection (1) applies to new regulated areas as those areas are identified in the CFR.

REGULATED ITEMS. The following are regulated items for purposes of sub. (1): the emerald ash borer, Agrilus planipennis (Fairmaire) in any living stage.
Ash trees.
Ash limbs, branches, and roots.
Ash logs, slabs or untreated lumber with bark attached.
Cut firewood of all non-coniferous species.
Ash chips and ash bark fragments (both composted and uncomposted) larger than one inch in diameter.
Any other item or substance that may be designated as a regulated item if a DATCP pest control official determines that it presents a risk of spreading emerald ash borer and notifies the person in possession of the item or substance that it is subject to the restrictions of the regulations.

Regulatory Considerations
The quarantine means that ash wood products may not be transported out of the quarantined area.

If ash trees are identified within clearing and grubbing limits of the Project, the following measures are required for the disposal:

Chipped ash trees
May be left on site if used as landscape mulch within the project limits.
May be buried on site within the right-of-way in accordance to standard spec 201.3 (14).
May be buried on adjacent properties to projects within the quarantined zone with prior approval of the engineer in accordance to standard spec 201.3 (15).
May be trucked to a licensed landfill within the quarantined zone with the engineer's approval in accordance to standard spec 201.3 (15).
Burning chips is optional if in compliance with standard spec 201.3.
Chips must be disposed of immediately and may not be stockpiled.
Chipper equipment must be cleaned following post-chipping activities to ensure no spread of wood chip debris into non-quarantined counties.

Ash logs, branches, and roots
May be buried without chipping within the existing right-of-way or on adjacent properties in accordance to standard spec 201.3 (14)(15).
May be trucked to a licensed landfill within the quarantined zone with the engineer's approval in accordance to standard spec 201.3 (15).
Burning is optional if in compliance with standard spec 201.3.
Ash logs, branches, and roots must be disposed of immediately and may not stockpiled.

All additional costs will be incidental to clearing and grubbing items.

Anyone moving firewood or ash products from the state or these counties is subject to state and federal fines up to $1,000.00. All fines are the responsibility of the contractor. Obtain updated quarantine information at the DNR Firewood Information Line at (800) 303-WOOD.

Updates for compliance
Each year, as a service, the Wisconsin Department of Agriculture, Trade and Consumer Protection distributes an updated federal CFR listing to nursery license holders and other affected persons in this state. More frequent updates, if any, are available on the department's website at www.datcp.state.wi.us. Subsection (1) applies to new regulated areas as those areas are identified in the CFR, regardless of whether affected persons receive update notices from the department. Persons may request update notices by calling (608) 224−4573, by visiting the department's website, or by writing to the following address:

Wisconsin Department of Agriculture, Trade and Consumer Protection
Division of Agricultural Resource Management
P.O. Box 8911
Madison WI 53708−8911

(2) REGULATED ITEMS. More frequent updates, if any, are available on the department's website at www.datcp.state.wi.us. Subsection (1) applies to new regulated areas as those areas are identified in the CFR, regardless of whether affected persons receive update notices from the department. Persons may request update notices by calling (608) 224−4573, by visiting the department's website, or by writing to the above address.

6.3 Notice to Contractor - Abatement of Asbestos Containing Material Structure B-05-0064, B-05-0066, B-05-0067, B-05-0068, B-05-0069, B-05-0070, B-05-0071.

Jeffrey S. Carlson, License Number AII-3420, inspected Structure B-05-0064 for asbestos on August 10, 2007. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

• On B-05-0064, USH 41 Southbound over Velp Avenue, 15 square feet of a gray caulk/putty material is located between the parapet wall joints containing 2% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a friable asbestos containing material.

Jeffrey S. Carlson, License Number AII-3420, inspected Structure B-05-0066 for asbestos on August 10, 2007. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

• On B-05-0066, USH 41 Southbound over CN RR, 13.4 square feet of a gray guard rail post base gasket is located between the parapet wall joints containing 3% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a friable asbestos containing material.

Jeffrey S. Carlson, License Number AII-3420, inspected Structure B-05-0067 for asbestos on August 9, 2007. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

• On B-05-0067, USH 41 Northbound over CN RR, 13.9 square feet of a gray guard rail post base gasket is located between the parapet wall joints containing 2% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a friable asbestos containing material.

Jeffrey S. Carlson, License Number AII-3420, inspected Structure B-05-0068 for asbestos on August 10, 2007. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

• On B-05-0068, USH 41 Southbound over HWY 43 and Wietor Dr., 17.5 square feet of a gray guard rail post base gasket is located between the parapet wall joints containing 4% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a friable asbestos containing material.

Jeffrey S. Carlson, License Number AII-3420, inspected Structure B-05-0069, B-05-0070, B-05-0071 for asbestos on August 9, 2007. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

• On B-05-0069, USH 41 Northbound over HWY 43 and Wietor Dr., 17.9 square feet of a gray guard rail post base gasket is located between the parapet wall joints containing 2% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a friable asbestos containing material.

• On B-05-0070, USH 41 Southbound over Duck Creek, 13.9 square feet of a gray guard rail post base gasket is located between the parapet wall joints containing 3% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a friable asbestos containing material.

• On B-05-0071, USH 41 Northbound over Duck Creek, 16.3 square feet of a gray guard rail post base gasket is located between the parapet wall joints containing 2% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a friable asbestos containing material.

Others will complete abatement of RACM under direction of the department's environmental consultant. The environmental consultant is:

Dan Haak,
RMT, Inc.,
744 Heartland Trail, Madison, Wisconsin 53717
Phone: (608) 662-5274

Provide traffic control, as required, for completion of abatement activities by others.

Provide the engineer and environmental consultant with a written notice at least 28 calendar days prior to the scheduled date to beginning any construction or demolition of the bridge. Provide environmental consultant at least 7-calendar day notice of date when traffic control is in place and structure is available to complete the asbestos abatement. Allow up to a 3-business day window for others to complete abatement. Asbestos abatement will be completed in one business day.

Coordinate with the engineer and environmental consultant the abatement of the RACM on this structure by others prior to beginning any construction or demolition. A completed Notification of Demolition and/or Renovation (DNR Form 4500-113) for the asbestos abatement will be submitted to the DNR by others. A copy of the inspection report is available from Kathie VanPrice, (920) 492-7175. In accordance to NR447, ensure that DNR receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113) of any changes to structure demolition schedule from that which is provided under the initial notification by others. A copy of the notification form completed by others will be available from Eric Gwidt, WisDOT Northeast Region,

USH 41 Brown County Project Office, 1940 West Mason Street, Green Bay, WI, 54303, (920) 492-7373. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113:

- Site Name: **Structure B-05-0067**, USH 41 Northbound over CN RR
- Site Address: Lat:44° 33’ 32.17” Long: 88° 03’ 23.85”
- Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
- Contact: Eric Gwidt
- Phone: (920) 492-7373
- Age: 44 years. This structure was constructed in 1970.
- Area: 6704 SF of deck

- Site Name: **Structure B-05-0068**, USH 41 Southbound over HWY 43 and Wietor Dr.
- Site Address: Lat:44° 33’ 40.56” Long: 88° 03’ 14.69”
- Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
- Contact: Eric Gwidt
- Phone: (920) 492-7373
- Age: 44 years. This structure was constructed in 1970.
- Area: 13907 SF of deck

- Site Name: **Structure B-05-0069**, USH 41 Northbound over HWY 43 and Wietor Dr.
- Site Address: Lat:44° 33’ 54.73” Long: 88° 02’ 58.52”
- Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
- Contact: Eric Gwidt
- Phone: (920) 492-7373
- Age: 44 years. This structure was constructed in 1970.
- Area: 13907 SF of deck

- Site Name: **Structure B-05-0070**, USH 41 Southbound over Duck Creek
- Site Address: Lat:44° 33’ 54.00” Long: 88° 02’ 54.00”
- Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
- Contact: Eric Gwidt
- Phone: (920) 492-7373
- Age: 43 years. This structure was constructed in 1971.
- Area: 10480 SF of deck

- Site Name: **Structure B-05-0071**, USH 41 Northbound over Duck Creek
- Site Address: Lat:44° 33’ 52.40” Long: 88° 02’ 57.82”
- Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
- Contact: Eric Gwidt

• Phone: (920) 492-7373
• Age: 43 years. This structure was constructed in 1971.
• Area: 13740 SF of deck

Insert the following paragraph in Section 6.g:

• If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Equity and Environmental Services at (608) 266.1476 for an emergency response in accordance to standard spec 107.24. Keep material wet until it is abated, or until it is determined to be non-asbestos containing material.

• If rails or other items are removed from the structure by others to complete the asbestos abatement, they may be salvaged by others or once the asbestos abatement is completed, left at project site for disposal by contractor. If during the course of the work, the contractor identifies potential RACM not previously identified, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Equity and Environmental Services at (608) 266.1476 for an emergency response in accordance to standard spec 107.24. Keep material wet until it is abated, or until it is determined to be non-asbestos containing material.

(NER41-20100426)

6.4 Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Eric Gwidt at (920) 492-7373 .
107-054 (20080901)

6.5 Environmental Protection, Aquatic Exotic Species Control.

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters of the state. Wisconsin State Statutes 30.07, "Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters", details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

At construction sites that involve navigable water or wetlands, use the follow cleaning procedures to minimize the chance of exotic invasive species infestation. Use these procedures for all equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels prior to being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Use the following inspection and removal procedures (guidelines from the Wisconsin Department of Natural Resources http://dnr.wi.gov/topic/fishing/documents/vhs/disinfection_protocols.pdf for disinfection:

1. Prior to leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;

2. Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;

3. Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can prior to leaving the area or invested waters; and

4. Disinfect your boat, equipment and gear by either:
   a. Washing with ~212º F water (steam clean), or
   b. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
   c. Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfect should be used in conjunction with a hot water (>104º F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.
107-055 (20130615)

6.6 Construction Over or Adjacent to Navigable Waters.

Supplement standard spec 107.19 with the following:

The Duck Creek is classified as a navigable waterway.
107-060 (20040415)

6.7 Notice to Contractor – Contamination Beyond Construction Limits.

The department completed testing for soil and ground water contamination for locations within this project where excavation is required. Testing indicated that petroleum-contaminated soil is present at the following site(s):

1. Station 1178+60 VEB to 1181+00 VEB from 75 feet RT of centerline to 280 feet RT of centerline.

The contaminated soils at the above sites are expected to be beyond the excavation limits necessary to complete the work under this project. Control construction operations at these locations to ensure that they do not extend beyond the excavation limits indicated in the plans. If contaminated soils are encountered at these sites or elsewhere on the project during excavation, terminate excavation in the area and notify the engineer.

The Hazardous Materials Report is available by contacting: Kathie VanPrice, 944 Vanderperren Way, Green Bay, WI 53324, (920) 492-7175.
107-100 (20050901)

6.8 Notice to Contractor – Fertilizer.

Fertilizer shall not be used within 20-feet of a water body or wetland.

6.9 Notice to Contractor – Layout Information for Permitted Impact to Wetlands.

Upon award of the contract, the department can supply information for laying out boundaries of permanent and temporary impact to wetlands as defined under the Section 404 permit. Contact Eric Gwidt, phone (920) 492-7373 .

6.10 Notice to Contractor – Causeways.

A causeway along only one shoreline will be allowed at a time in Duck Creek. Do not place causeway materials along the south shoreline of the creek until all causeway materials have been removed from the creek along the north shoreline. Once the causeway along the south shoreline is in place for construction of Structure B-5-682, as shown in the plan, the causeway cannot be expanded, modified, or removed during the period of fish spawning, from March 1 to June 15, both dates inclusive. When removing causeways, do not excavate below the soil elevation existing prior to placing causeway materials, to avoid the potential for impacting global stability, and for reducing the embankment stability for construction of nearby retaining walls.

6.11 Endangered Resources

There are State Threatened Wood and Blanding's turtles within the project area. Provide 10 day business notice to the department (Mike Helmrick, WisDOT, (920) 492-7738) prior to start of any construction activity. The department will field review and remove any turtle, if found within the project area. The department will monitor and remove turtle if necessary throughout the construction period.

The State Threatened Wood Turtle (Glyptemys insculpta) and Blanding's Turtle (Emydoidea blandingii) are known inhabitants to the waterways and riparian corridors

throughout the USH 41 segments. Wood and Blanding's turtles may be present at the site, or near the site, therefore;

The project construction must protect the perimeter of the area to be disturbed with properly trenched-in silt fence with turtle turnarounds at the ends prior to March 15 to discourage the turtles from entering the area. The silt fence installation must meet both the department's specifications and the approval of the Department of Natural Resources.

If the project construction area cannot be silt fenced prior to March 15, the trenched-in silt fence must be installed prior to construction activities and the area behind the silt fence must be surveyed to ensure no turtles have ventured into the construction site.

Contact Mike Helmrick for additional measures if any Wood or Blanding's turtles are in the construction limits.

Any turtles that are found in the project site, during construction season, must be removed prior to any site disturbance and shall continue throughout the construction period to ensure no turtles are harmed during construction.

6.12 Excavation of Phragmites Soil, Item SPV.0035.003.

A Description
This item includes excavation of soils designated in the plans as containing Phragmites as directed by the engineer, hauling, placing, and shaping excavated material to the designated waste site, backfilling the excavated area, and decontamination of equipment.

B (Vacant)

C Construction
Excavate soils in accordance to the lines and grades shown on the plan, to the limits of topsoil, or as directed by the engineer. Some EBS may be required to remove plant material. Backfill excavated area. Haul excavated material, not classified as salvaged topsoil, to the waste site and place and shape material where designated as shown in the plans or directed by the engineer. Multiple contractors may be accessing the waste site at one time. Coordinate with other contracts to accomplish proper material placement and the desired shape of the waste site shown in the plans.

Access to the designated waste site at the WIS 172 interchange will not be allowed from 6:00 AM to 9:00 AM and from 3:00 PM to 6:00 PM Monday through Friday, unless approved by the engineer. Access to the designated waste site from the NW ramp (southbound USH 41 to westbound WIS 172) will not be allowed.

Decontaminate equipment per Environmental Protection, Aquatic Exotic Species Control article of these special provisions.

Maintain the tracking pad at the access points of the waste site per the special provisions. Maintain silt fence and erosion control on the site in accordance to applicable sections of

the standard specifications as directed by the engineer. Install traffic control as shown on the plans and as directed by the engineer while accessing the site

D Measurement
The department will measure Excavation of Phragmites Soil by the cubic yard, acceptably completed. The quantity measured for payment shall equal the actual number of cubic yards of excavated as measured by the engineer.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.003	Excavation of Phragmites Soil	CY

Payment is full compensation for excavating, loading, hauling, wasting, and shaping material, providing and placing backfill material, maintenance of access and hauling routes within the site, and decontamination of equipment.

Any seed, fertilizer, silt fence maintenance, tracking pad maintenance, and traffic control will be paid for under the pertinent items provided in the contract.
(NER41-20130327)

7. Traffic and Restrictions to Work.

Two weeks prior to the traffic shift from Stage 2 to Stage 3, the contractor for project 1133-10-71 will request the signed detour for closing of the following ramps, SB41 to SB43; NB43 to SB41; SB41 off-ramp to Velp to be installed. Coordinate as necessary to complete the detour signing when the ramps are closed.

7.1 Notice to Contractor – Detour Signing

Contractor for project 1133-10-71 will give notice two weeks prior to the traffic shift from Stage 2 to Stage 3. Place detour signing as shown in the plan for the following ramps; SB41 to SB43; NB43 to SB41; SB41 off-ramp to Velp.

Two weeks prior to closing Velp Ave for the 60 day closure, notify Brown County Highway Department so that the signed detour of CTH HS can be coordinated for setting up. Contact person is Paul Fontecchio, (920) 662-2170

7.2 Traffic

Complete the work under this contract in a staged sequence as shown in the plan. The construction staging plans show an overview of the work areas for the project and the traffic control plans show detail of the work zone activities and the routing of traffic for each stage and phase.

Clear Zone Working Restrictions

Do not store materials or equipment within the clear zone of traffic lanes which are not protected by temporary precast barrier. Remove materials from the clear zone prior to opening lane closures. Do not leave any slopes steeper than 3:1 or any drop offs at the edge of the traveled way greater than 2 inches within the clear zone which are not protected by temporary precast barrier prior to opening lane closures.

Do not perform heavy equipment work in the median at any time unless protected by concrete barrier in both directions except as allowed during night work with lane closures.

Do not perform heavy equipment work within 18 feet of the edge of the traveled way unless protected by concrete barrier or a lane closure during the allowed closure periods.

Park equipment a minimum of 30-feet from the edge of the traveled way. Equipment may be parked in the median if it meets the minimum distance requirement from both traveled ways or if it is protected by concrete barrier.

If the contractor is unsure whether an individual work operation will meet the safety requirements for working within the clear zone, review the proposed work operation with the engineer before proceeding with the work.
(NER41-20110217)

Expressway/Freeway Traffic Control Meeting
Conduct a traffic control meeting prior to:

1. Initial traffic control set up.
2. Intermediate traffic switches.
3. Reopening of the highway to traffic.

Notify Kevin Lohff at (920) 606-3176; seven business days prior to setting up the meeting.
(NER41-20130129)

Freeway Service Team (FST)
As part of a traffic mitigation program called Freeway Service Team (FST), the department has contracted with a private towing vendor to patrol parts of US 41 during peak hours, holidays and special events. To improve safety and minimize delay, contact 911 immediately for breakdowns or incidents in or near the construction work zone. FST will be dispatched directly to the scene to aid the vehicles that need to be removed.
(NER41-20110317)

Opening Roundabout
Do not open the roundabouts along Velp Avenue at the end of the 60-day continuous closure to through traffic until the roundabout is completed including lighting, signing, pavement marking and all finishing items.
(NER41-20100201)

Wisconsin Lane Closure System Advanced Notification
Provide the following minimum advance notification to the engineer for incorporation into the Wisconsin Lane Closure System:

Lane closures (without width, height or weight restriction)	3 business days
Service Ramp closures	3 business days
Extended closure hours	3 business days
System Ramp closures	7 calendar days
Local Street openings/closings	7 calendar days
Lane closures (with width, height or weight restriction)	14 calendar days
Project Start	14 calendar days
Full Freeway closures	14 calendar days
Construction stage changes	14 calendar days
Detours	14 calendar days

Notify the engineer if there are any changes in the schedule, early completions, or cancellations for scheduled work.
(NER41-20100426)

Portable Changeable Message Signs – Message Prior Approval
After coordinating with department construction field staff, notify Kevin Lohff at (920) 606-3176, three business days prior to deploying or changing a message on a PCMS to obtain approval of the proposed message.
(NER41-20130129)

Portable Speed Trailers
The State Patrol will be supplying and operating portable speed trailers during the construction of this project. These portable units will be parked inside and outside the construction limits to help assist with law enforcement during the construction activities.

The State Patrol and department will coordinate the placement of these devices with the contractor. The contractor will be required to accommodate the placement of these devices within the project. The general accommodations include an area to park the devices but still visible to traffic and access to and from the devices. Accommodation of these devices and necessary coordination with the State Patrol and department is incidental to other items of work under this contract and no additional compensation will be made to accommodate these devices with the project area. Coordinate with Kevin Lohff, (920) 606-3176, for specific details regarding the portable speed trailers.
(NER41-20110718)

Protection of Bridge Pier Columns
Bridge pier columns are to remain protected at all times throughout construction. Removal of existing guardrail shall be done concurrently with the placement of the temporary concrete barrier so that the bridge pier columns remain protected at all times. Placement of new beamguard shall be completed to a point to provide protection for the pier columns before the temporary concrete barrier is removed. Remaining beamguard shall be placed within 24 hours of the temporary concrete barrier being removed.

Roadside Hazard Protection During Construction
Conduct existing beam guard removal in several phases to allow timely installation of temporary barriers. Bridge pier columns and parapets are to remain protected at all times throughout construction. Removal of existing guardrail shall be done concurrently with the placement of the temporary concrete barrier or temporary barrier left in place so that the bridge pier columns/parapets remain protected at all times. Placement of new beamguard shall be completed to a point to provide protection for the pier columns/parapet before the temporary concrete barrier is removed. Railing connecting to structure parapet should be in place prior to opening the lanes for traffic. Remaining beamguard shall be placed within 24 hours of the temporary concrete barrier being removed.

Ramp Access
Access on and off of ramps will only be allowed if approved by the engineer. Crossing ramps with construction equipment/vehicles, unless shown in the plans, needs to be approved by the engineer. For crossing of ramps with equipment that is not tire equipped, an engineer approved rolling road block will be required during non-peak hours associated with the ramp area on USH 41.
(NER41-20111110)

Rolling Closures
For sign structure related work over live traffic lanes, including the mounting or removal of structural frames, permanent signs, temporary covers for permanent signs, or sign blanks for both directions for USH 41, both directions for IH 43, and all IH 43 system ramps, may be closed for periods not to exceed 20 minutes between the hours of 10:00 PM to the following morning at 5:00 AM, Sunday, Monday, Tuesday, Wednesday, and Thursday nights. Allow all vehicle backups to clear the project area prior to setting up the next road closure during the above timeframe. The department has contracted with the Wisconsin State Highway Patrol to assist with traffic control operations by setting up rolling roadblocks for these closures. Coordinate with the Traffic Management Engineer, Kevin Lohff at (920) 606-3176, on these road closures and provide 72 hours prior notice to the engineer.

Temporary Regulatory Speed Limit Reduction
A reduction of the posted regulatory speed limit from 65 mph to 55 mph is required when any of the following conditions are created within the project limits: 1. Lane(s) closed and workers are present and active in close proximity to an open lane. 2. Lane(s) narrowed to less than 12 feet and adjacent shoulder width is reduced. 3. Traffic is shifted partly or completely onto a shoulder and/or temporary pavement and shoulder width is reduced. At all other times the posted regulatory speed limit shall be 65 mph.

During periods when traffic conditions do not require a Temporary Regulatory Speed Reduction, speed limit signs shall be changed to the permanent posted speed limit. This may require posted speed and sign changes twice a day or more. Changing temporary and

existing/permanent signs between 65 mph and 55 mph shall be considered incidental to the item Traffic Control.

During approved temporary regulatory speed limit reductions, install regulatory speed limit signs on the inside and outside shoulders of the roadway at the beginning of the reduced regulatory speed zone, after all locations where traffic may enter the highway segment or every ½ mile within the reduced regulatory speed zone. Signs shall be installed at the end of the temporary regulatory speed zone to designate the end of the temporary regulatory speed zone and inform drivers the posted regulatory speed limit reverts back to 65 mph. To minimize possible confusion to the traveling public and to ensure appropriate speed enforcement, enhanced attention to placement and changing of speed limit signs is required.

Coordinate with department construction field staff to notify the Northeast Region Traffic Section with field location(s) of the temporary regulatory speed zone. Primary contact phone number (920) 492-5652 (secondary contact number is (920) 492-5641). Contact the Northeast Region Traffic Section at least 14-calendar days prior to installation of the temporary regulatory speed zone. After notification, Northeast Region Traffic will create a "Temporary Speed Zone Declaration" to meet statutory requirements, allowing enforcement of this temporary regulatory speed limit.

When construction activities impede the location of a post mounted regulatory speed limit sign, mount the regulatory speed limit sign on portable supports that meet the "crashworthy" definition and height criteria in the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). (20110202)

Temporary Intelligent Transportation System
As part of a separate contract, the department has contracted with a private vendor to supply, operate and maintain a temporary intelligent transportation system during the construction of this project. The temporary ITS system will consist of portable video surveillance systems, portable traffic detectors and portable changeable message signs. These portable units will be parked inside and outside the construction limits to help assist law enforcement and the department with monitoring traffic conditions during the construction activities.

The vendor will coordinate the placement of these devices with the contractor. The contractor will be required to accommodate the placement of these devices within the project. The general accommodations include an area to park the devices out of the clear zone but still visible to traffic and access to and from the devices. Contact the Northeast Region Traffic Section at (920) 492-7719 for specific details regarding the temporary intelligent transportation system.
(NER41-20100201)

Snowplowing
Brown County and the Village of Howard will perform snow removal operations for freeway and local roads that are open to through traffic during construction. Provide for

snow removal in those areas closed to through traffic as required to facilitate safe construction activities and to provide access to properties within the work area.

Winter Maintenance

During winter months park equipment at a safe distance (at a minimum of 30 feet from the edge of travel lane, equipment parked in the median if it meets the minimum 30 feet from both traveled ways or if it is protected by concrete barrier) from the active travel lanes to prevent damage to equipment from snow plowing operations. Do not store equipment or materials within the work zone which may interfere with horizontal sight distances along USH 41 and IH 43.

Snow may be plowed from the traveled roadway into the work site by the maintaining authority. The contractor is responsible for any snow removal from the work site that may be required to continue work operations.

The contractor is responsible for plowing any areas which may need to be cleared of snow or ice to accommodate changes in traffic control and to facilitate construction staging during winter months. Brown County or the local maintaining authority will not provide snow plowing operations in areas outside of the active traveled lanes.

Re-install or adjust any traffic control devices that may be damaged, removed, or shifted as part of normal winter maintenance operations. Clean and maintain traffic control devices as necessary or directed as a result of winter maintenance operations.

Anticipated locations of traffic control devices are shown in the plans. Review the work site with the engineer for locations where additional area may be available to maximize lane and shoulder widths over winter months to aid in winter maintenance operations and to maximize snow storage area. Adjust traffic control devices in these areas.

Snow plowing, ice removal including any road salt which may be required, maintenance and cleaning of traffic control devices, and other winter maintenance activities are incidental other items of work under this contract.

At dead-end roadways, provide access to the entire paved or gravel area of the cul-de-sac for access and turnaround of snowplow vehicles used by the maintaining authority. Do not hinder snowplow access to the cul-de-sac surface with parked equipment, stored materials, or placement of traffic control devices.

Velp Avenue Traffic Signals

At least one calendar week in advance of temporary conditions affecting Velp Avenue traffic signals at the USH 41 ramps, identified below, notify the department's Northeast Region Traffic group, contact Bob Schuurmans, phone (920) 492-5710.

At the start of construction, remove above-ground appurtenances for the traffic signal at the southbound USH 41 ramp terminal.

Full overnight closure of Velp Avenue for short duration structure construction, including removal of an existing bridge in Stage 3, and girder setting for a proposed bridge during Stage 3.

Continuous closure of an outside lane along westbound Velp Avenue in Stage 3, for construction of proposed bridge abutment and retaining wall.

Overnight lane closures on Velp Avenue.

Overnight full closure of a Velp Avenue ramp.

60-calendar day continuous full closure of Velp Avenue in Stages 3 and 4 to reconstruct the roadway with roundabouts, requiring the removal of the entire traffic signal at the northbound ramp terminal, and the underground components of the traffic signal at the southbound ramp terminal.

USH 41 and IH 43 Traffic

Submit any traffic control change request to the engineer at least 72 hours prior to an actual traffic control change. A request does not constitute approval.

Maintain the following lanes during work on each roadway unless otherwise allowed. Each hour shown in the lane requirement tables is defined as a sixty minute period (example: Hour 7 is the period from 7:00 to 7:59).

Freeway/Expressway Lane Requirements																								
Limits:	Northbound USH 41: Memorial Drive to Lineville Road (CTH M)																							
	AM												**PM**											
From Hour to Hour	12	1	2	3	4	5	6	**7**	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Fridays	1	1	1	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all USH 41 lanes to travel																								
REMARKS: Do not close northbound US 41 to southbound I-43 systems ramp concurrently with closure of northbound US 41 to eastbound WIS 172 systems ramp (WIS 172 interchange construction/closures by others). Do not close northbound I-43 to northbound US 41 systems ramp concurrently with closure of northbound US 41 on-ramp from Velp Avenue.																									

Freeway/Expressway Lane Requirements																									
Limits:	Southbound USH 41: Lineville Road (CTH M) to Memorial Drive																								
	AM												**PM**												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Fridays	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Sundays	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all USH 41 lanes to travel																								
REMARKS: Do not close southbound US 41 to southbound I-43 systems ramp concurrently with closure of southbound US 41 to eastbound WIS 172 systems ramp (WIS 172 interchange construction/closures by others).																									

IH 43 Allowable Lane Closures for Northbound and Southbound IH 43:

Continuous single lane closures are permitted in Stage 3.

Single lane closure are only permitted overnight during Stage 4.

Freeway/Expressway Lane Requirements																									
Limits:	IH 43 Northbound and IH 43 Southbound: US 41 to Fox River																								
	AM												**PM**												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Daily (Stage 4)	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Daily (Stage 3)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all Southbound IH 43 lanes to travel																								
REMARKS: Do not close northbound I-43 to southbound US 41 systems ramp concurrently with closure of westbound WIS 172 to southbound US 41 systems ramp (WIS 172 interchange construction/closures by others). Do not close northbound I-43 to northbound US 41 systems ramp concurrently with closure of westbound WIS 172 to northbound US 41 systems ramp (WIS 172 interchange construction/closures by others). Do not close northbound I-43 to northbound US 41 systems ramp concurrently with northbound I-43 to southbound US 41 systems ramp. Do not close northbound I-43 to northbound US 41 systems ramp concurrently with closure of northbound US 41 on-ramp from Velp Avenue.																								

Long Term Full Closure, Ramps and Velp Avenue
Continuous closures are permitted for the following roadways:

Southbound USH 41 to southbound IH 43 System Ramp (Stage 3) – Continuous full closure starting 12:01 AM October 21, 2015 to prior to 12:01 AM August 26, 2016.

Northbound IH 43 System Ramp to Southbound USH 41 (Stage 3) – Continuous full closure starting 12:01 AM October 21, 2015 to prior to 12:01 AM August 26, 2016.

Southbound USH 41 Off-Ramp to Velp Avenue (Stage 3 and Stage 4) – Continuous full closure starting 12:01 AM October 21, 2015 to completion of 60-calendar day continuous full closure of Velp Avenue.

Velp Avenue and all Velp Avenue Interchange Ramps (Stage 3 and Stage 4) – 60 calendar-day continuous full closure starting 12:01 AM between the dates of August 8-15, 2016.

Ramp, Velp Avenue, and local roadway allowable lane closures, and short duration full closures

Northbound USH 41 to southbound IH 43 ramp:

Full closure: 8:00 PM Sunday, Monday, Tuesday, Wednesday and Thursday – 5:00 AM the following day
8:00 PM Friday and Saturday – 12:00 PM (noon) the following day

Cannot be closed concurrently with northbound USH 41 to eastbound WIS 172 ramp (by others)

Southbound USH 41 to southbound IH 43 ramp:

Full closure: 8:00 PM Sunday, Monday, Tuesday, Wednesday and Thursday – 5:00 AM the following day
8:00 PM Friday and Saturday – 12:00 PM (noon) the following day

Cannot be closed concurrently with southbound USH 41 to eastbound WIS 172 ramp (by others).

Northbound IH 43 to northbound USH 41 ramp:

Full closure: 8:00 PM Sunday, Monday, Tuesday, Wednesday and Thursday – 5:00 AM the following day
10:00 PM Friday – 9:00 AM Saturday
8:00 PM Saturday – 9:00 AM Sunday

Cannot be closed concurrently with westbound WIS 172 to northbound USH 41 ramp (by others)

Northbound IH 43 to southbound USH 41 Ramp:

Full closure: 8:00 PM Sunday, Monday, Tuesday, Wednesday and Thursday – 5:00 AM the following day
10:00 PM Friday – 9:00 AM Saturday
8:00 PM Saturday – 9:00 AM Sunday

Cannot be closed concurrently with westbound WIS 172 to southbound USH 41 ramp (by others).

Eastbound Velp Avenue:

Single lane closure, also includes closure of one USH 41 southbound off-ramp left turn lane onto Velp Avenue: 7:00 PM – 5:00 AM daily

Full Closure of Velp Avenue: 10:00 PM – 5:00 AM daily

Westbound Velp Avenue:

Single lane closure, also includes closure of one northbound USH 41 off-ramp left turn lane onto Velp Avenue: 7:00 PM – 5:00 AM daily

Full Closure of Velp Avenue: 10:00 PM – 5:00 AM daily

Do not fully close westbound Velp Ave concurrently with either the closure of northbound IH 43 to northbound USH 41 system ramp, or the closure of the northbound IH 43 to southbound USH 41 system ramp.

During Stage 3, the outside lane can be continuously closed for 21 days underneath USH 41 for southbound USH 41 bridge and retaining wall construction immediately behind back of curb. This can not be concurrent any other lane closures on Velp Avenue.

Full Velp Avenue Closure:

Full overnight closures for each direction of Velp Avenue are necessary to remove the existing southbound USH 41 bridge B-5-64, and build proposed south USH 41 bridge B-5-668 as approved by the engineer. These full closures in opposite directions of Velp Avenue must be concurrent.

Memorial Drive and Velp Avenue Frontage Roads:

The reconstruction of Memorial Drive and the Velp Avenue frontage Roads must be completed before the 60 day closure of Velp Avenue. Work on Memorial Drive and Velp

Avenue frontage roads can only be started a maximum of 21 days before the 60 day Velp Avenue closure.

Maintain traffic at all times, using flagging operations as necessary on Memorial Drive. Velp Avenue Frontage Roads can be closed for their reconstruction.

East Deerfield Avenue and West Deerfield Avenue:

Maintain traffic at all times, using flagging operations as necessary.

Wietor Drive:

Wietor Drive may be closed for bridge removal or girder erection from the hours of 7:00 PM and 5:00 AM daily. Notify the Village of Howard at least one calendar week in advance of a full closure of Wietor Drive, contact Geoff Farr, phone (920) 434-4060. Immediately before full closure of Wietor Drive for bridge removal or girder erection, ensure that no persons are at facilities along Wietor Drive west of USH 41. Otherwise, maintain traffic at all times, using flagging operations as necessary.

Interchange and Side Road Lane Requirements

Limits:	USH 141 Interchange (Velp Avenue)																							
	AM												**PM**											
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Daily (M)	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Daily (R)	C	C	C	C	C	C	O	O	O	O	O	O	O	O	O	O	O	O	C	C	C	C	C	C	C

Legend	
1	Single lane closures allowed
2	Open all USH 141 lanes to travel
(M)	Mainline
(R)	Ramps
C	USH 141 ramps may be closed completely
O	Open all lanes on USH 141 ramps to travel

REMARKS:

Exception during Velp Avenue full closure period.

Do not close Velp Avenue concurrently with WIS 29 (or any of its service and system ramps), CTH M, I-43 interchange at Atkinson Drive, the WIS 29/CTH EB intersection, Memorial Drive, or Lakeview Drive.

Do not close northbound US 41 off-ramp to Velp Avenue concurrently with northbound US 41 to southbound I-43 systems ramp.

Do not close northboud US 41 on-ramp from Velp Avenue concurrently with northbound I-43 to northbound US 41 systems ramp.

Interchange and Side Road Lane Requirements																								
Limits:	Memorial Drive at the USH 41 Overpass																							
	AM												**PM**											
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Daily	C	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C
Legend																									
1	Open all lanes to travel in each direction																								
C	Memorial Drive may be closed completely																								
REMARKS:																									

Construction Access

Restrict work on USH 41 and USH 41 ramps, and IH 43 and IH 43 ramps within closed shoulders or closed lanes as allowed by the plans or engineer. Provide and utilize temporary deceleration and acceleration lanes to/from the work zones. Construction of the temporary lanes shall be incidental to other items of work. All construction access is subject to approval of the engineer.

During the period when lane closures are allowed on USH 41 or IH 43, access into the work zones from USH 41 or IH 43 can be made from the closed lane, subject to the approval of the engineer. Construction traffic from the work zone entering USH 41 or IH 43 must run out of the closed lane. Once construction traffic is within a lane closure, all construction traffic re-entering USH 41 or IH 43 must come to within 10 mph of posted speed before re-entering the live USH 41 of IH 43 lane.

During the period when lane closures are not allowed on USH 41 or IH 43, access into the work zones from USH 41 or IH 43 must be made with a deceleration lane. The length of the deceleration lane is subject to review and approval by the engineer to ensure work zone traffic is exiting safely from USH 41 or IH 43. Construction traffic from the work zone entering live traffic on USH 41 or IH 43 must use an acceleration lane with a minimum length of 1000-feet. The acceleration lane entrance to USH 41 or IH 43 cannot be placed within 1500-feet of an interchange ramp. All construction traffic re-entering USH 41 or IH 43 must come to within 10 mph of posted speed before re-entering the live USH 41 of IH 43 lane.

Construction traffic cannot travel counter-directional adjacent to USH 41 or IH 43 traffic except behind temporary concrete barrier.

General Access

U-Turns at existing maintenance crossovers or temporary crossovers between US 41 or IH 43 northbound and southbound will be allowed when lane closures are in place for inside northbound and southbound passing lanes.

Construction operations affecting the traveling public's safety on USH 41 or IH 43 will not be allowed during snow and ice conditions, or any other adverse weather conditions, unless approved by the engineer.

Close one lane along entire project during hours when lane closures are required or provide 2-mile minimum spacing between lane closures.

Delivery of equipment to USH 41 or IH 43 requiring the use of a semi tractor and trailer shall only occur during those hours identified as non-peak work periods.

Memorial Drive and Velp Avenue Frontage Roads:
When Velp Avenue is closed to traffic, provide a temporary all-way stop condition at the intersection of Velp Avenue with Melody Drive, and also at the two intersections of Memorial Drive with the frontage roads.

Velp Avenue Business Access
During closure of Velp Avenue, provide full access from the west for the commercial entrance off the north side of the roadway, immediately east of the Beaver Dam Creek structure. Stage construction to provide a paved surface at all times to the commercial entrance.

Do not provide an unpaved surface for more than 7 days. When the surface is unpaved, at a minimum, provide 6" base aggregate dense 1¼-inch. When not under flagging operations, at a minimum, provide a clear width of 20'.

During reconstruction of Memorial Drive and Velp Avenue frontage roads, prior to the 60-day full closure of Velp Avenue, provide a minimum surface of 6" base aggregate dense 1¼-inch, and 20' clear width when not under flagging operations.

Velp Avenue Traffic Signals
At the start of construction, remove above-ground appurtenances for the traffic signal at the southbound USH 41 ramp terminal. Power to this traffic signal will have been turned off by others when the closure of the southbound USH 41 off-ramp to Velp Avenue is commenced. Later on, remove below-ground components of the southbound USH 41 ramp terminal traffic signal, concurrent with removal of all components of the traffic signal at the northbound USH 41 ramp terminal, when Velp Avenue is under full closure for reconstruction.

Private Driveways
Maintain access to all business driveways and private residence driveways on a minimum of crushed aggregate base course surface at all times except as follows. Close driveways for a maximum of 7 calendar days due to roadway concrete paving. Close driveways for a maximum of 7 calendar days for grading and placement of base aggregate and concrete paving for each driveway. Notify each business and/or each residence on the property a minimum of 7 days prior to any driveway closures.
(NER41-20100201)

Velp Avenue Sidewalk
The eastbound Velp Avenue sidewalk is closed prior to the start of construction, and will remain closed until the completion of the reconstruction of Velp Avenue in Stage 4.

Close sidewalk as engineer approves. Provide safety fence along north side of sidewalk, between the northbound USH 41 on-ramp, and the southbound USH 41 off-ramp. Full closure allowed for 21 days in Stage 3 for construction of proposed southbound USH 41 bridge B-5-668 and retaining wall R-5-235 ST2. After demolition of existing sidewalk due to construction of structures, open the sidewalk to use by paving with 3" asphaltic surface temporary, having ADA compatible slope of 1.5%. Overnight closures of the sidewalk are permitted for other bridge work of shorter duration, including the removal of existing southbound USH 41 bridge B-5-64, and the setting of girders for proposed southbound USH 41 bridge B-5-668 with engineer approval.

7.3 Traffic Control.

Perform this work in accordance to the requirements of standard spec 643, and as shown on the plans or as approved by the engineer, except as hereinafter modified.

Submit to engineer for approval a detailed traffic control plan for any changes to the proposed traffic control detail as shown on the plans. Submit this plan 10 days prior to the preconstruction conference.

Provide 24 hours-a-day availability of equipment and forces to expeditiously restore lights, signs, or other traffic control devices that are damaged or disturbed. The cost to maintain and restore the above items shall be considered incidental to the item as bid and no additional payment will be made therefore.

Supply the name and telephone number of a local contact person for traffic control repair before starting work.

Have available at all times sufficient experienced personnel to promptly install, remove and reinstall the required traffic control devices to route traffic during the construction operations.

The turning of traffic control devices when not in use to obscure the message will not be allowed under this contract.

Obtain prior approval from the engineer for the location of egress and ingress for construction vehicles to prosecute the work.

Cover existing signs which conflict with traffic control as directed by the engineer.

Conduct operations in such a manner that causes the least interference and inconvenience to the free flow of vehicles on the roadways. This includes the following:

a. Do not park or store any vehicle, piece of equipment, or construction materials on the right-of-way without approval of the engineer.
b. All construction vehicles and equipment entering or leaving live traffic lanes shall yield to through traffic.
c. Equip all vehicles and equipment entering or leaving the live traffic lanes with a hazard identification beam (flashing yellow signal) capable of being visible on a sunny day when viewed without the sun directly on or behind the device from a distance of 1000 feet. Activate the beam when merging into or exiting a live traffic lane.

Do not disturb, remove or obliterate any traffic control signs, advisory signs, shoulder delineators or beam guard in place along the traveled roadways without the approval of the engineer. Immediately repair or replace any damage done to the above during the construction operations at contractor expense.

The traffic requirements are subject to change at the direction of the engineer in the event of an emergency.
(NER41-20100827)

7.4 Holiday and Other Work Restrictions.

USH 41 shall be restored to 4-lane counter-directional traffic during the following periods. Do not perform work on, nor haul materials of any kind along or across, any portion of the highway carrying USH 41, IH 43, IH 43 ramps, USH 141 (Velp Avenue) ramps, and USH 141 (Velp Avenue) traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights and any other material that might impede the free flow of traffic during the following holiday periods:

- Green Bay Packers home games and Packer Family Scrimmage: From 5 hours prior to game until 5 hours after the game;
- All major events at Lambeau Field (as determined by the engineer) from 5 hours prior to the event until 5 hours after the event;
- Kenny Chesney Concert at Lambeau Field, June 20, 2015 from from 5 hours prior to the event until 5 hours after the event;
- From noon Friday, May 22, 2015 to 5:00 AM Tuesday, May 26, 2015 for Memorial Day;
- From noon Friday, July 3, 2015 to 5:00 AM Monday, July 6, 2015 for Independence Day;
- From noon Friday, September 4, 2015 to 5:00 AM Tuesday, September 8, 2015 for Labor Day;
- From 5:00 PM to 10:00 PM Friday, November 20, 2015 for Opening Weekend of Deer Hunting;
- From noon Wednesday, November 25, 2015 to 5:00 AM Monday, November 30, 2015 for Thanksgiving and Close of Deer Hunting;
- From 5:00 PM to 10:00 PM Friday, May 6, 2016 for Opening Fishing Weekend;

- From noon Friday, May 27, 2016 to 5:00 AM Tuesday, May 31, 2016 for Memorial Day;
- From noon Friday, July 1, 2016 to 5:00 AM Tuesday, July 5, 2016 for Independence Day;
- From noon Friday, September 2, 2016 to 5:00 AM Tuesday, September 6, 2016 for Labor Day;
- From 5:00 PM to 10:00 PM Friday, November 18, 2016 for Opening Weekend of Deer Hunting;
- From noon Wednesday, November 23, 2016 to 5:00 AM Monday, November 28, 2016 for Thanksgiving and Close of Deer Hunting;
- From 5:00 PM to 10:00 PM Friday, May 5, 2017 for Opening Fishing Weekend;
- From noon Friday, May 26, 2017 to 5:00 AM Tuesday, May 30, 2017 for Memorial Day.

Prior to preparing bids, verify the dates of each festival, game, or event listed to obtain current dates for work restrictions.
(NER41-20100827)

7.5 Public Convenience and Safety.

Revise standard spec 107.8(6) as follows:

Check for and comply with local ordinances governing the hours of operation of construction equipment.

The Village of Howard has granted a noise variance for construction operations performed at night. The Village of Howard will allow unrestricted nighttime work with the exception of the following:
Do not perform pile driving between 10:00 PM and 6:00 AM.
Do not perform any demolition work with hydraulic excavator mounted hammers between 10:00 PM and 6:00 AM., except for USH 41 bridges over Velp Avenue demolition work.

Delete standard spec 107.8 (4) and replace with the following:

Notify the following organizations and departments at least 72 hours before road closures or detours are put into effect:

Brown County Public Safety Communications On Duty Supervisor	(920) 391-7440
Wisconsin State Patrol	(920) 929-3700
Brown County Sheriff's Department	(920) 448-4219,
US Post Office (Green Bay, Packerland Avenue)	(920) 498-3895,
US Post Office (Green Bay, Military Avenue)	(920) 497-5216,
Village of Howard Fire Department	(920) 434-4679,
Howard/Sumiaco School District	(920) 662-7878,

The Brown County Public Safety Communications 911 dispatches all area police, fire and ambulance services, and will relay any notification given by the contractor in the event of an emergency.
(NER41-20111018)

7.6 Midwest Guardrail System (MGS).

Supplement standard spec 614.2.1 with the following:

The Midwest Guardrail System installed along USH 41 and IH 43 shall be attached to steel posts and notched plastic blockouts.
(NER11-0223)

7.7 Concrete Barrier Temporary Precast.

Perform this work in accordance to standard spec 603, these special provisions, and as hereinafter provided.

Concrete Barrier Temporary Precast shall be 12'-6" in length. Concrete Barrier Temporary Precast 10'-0" will not be allowed.

If the contractor chooses to store materials, equipment or other items that are a hazard within four-feet of the construction zone side (deflection zone) of the barrier the barrier shall be anchored. The barrier must also be anchored when used on edge of bridge decks or locations where the drop-off exceeds two-feet, is steeper than 3H:1V and is less than 4-feet from the side of the barrier closest to the drop off. The system must be anchored as shown in the standard detail drawing.
(NER41-20120214)

7.8 Concrete Barrier Temporary Precast Left In Place by Others.

Maintain concrete barrier temporary precast left on the project site by others in accordance to standard spec 603, these special provisions, as directed by the engineer, and as hereinafter provided. The barrier left in place by others becomes property of the contractor unless designated otherwise in the contract.

Reinstallation of temporary barrier left on the project by others will be paid for under the pertinent items in the contract. Removal of temporary barrier left on the project by others will be paid for under the pertinent items included in the contract.

7.9 Crash Cushions Permanent Low Maintenance.

Complete work in accordance to standard spec 614.

Replace standard spec 614.2.7(1) with the following:

Furnish Model SCI 100GM Crash Attenuator from Smart Cushion Innovations (SCI) Products for permanent crash cushions.

7.10 Delineators Temporary.

Mount temporary delineators in manner to avoid placement of holes in the new concrete barrier and to avoid damage to the concrete upon removal of the temporary delineators. Along the permanent northbound USH 41 concrete median barrier, do not install permanent yellow delineators until temporary southbound USH 41 traffic is moved off of the northbound roadway in Stage 4, and the temporary white delineators are removed.

Replace standard spec 633.5(5) with the following:

Payment for Delineators Temporary is full compensation for providing, temporarily mounting the delineators to the permanent concrete median barrier, and to permanent concrete barrier along the outside shoulder, and for required bracket or mounting mechanisms; and for maintaining and removing delineators. The department will not pay for replacement of temporary delineators damaged during construction.

7.11 Removing Traffic Control Signs Fixed Message Left in Place, Item 204.9060.S.203.

A Description
This special provision describes removing traffic control fixed message signs left in place by others in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C Construction
Removed signs and supports become the contractor's property. Dispose of these signs off the right-of-way.

D Measurement
The department will measure Removing Traffic Control Signs Fixed Message Left in Place as each individual unit, acceptably completed.

E Payment
Supplement standard spec 204.5 to include the following:

ITEM NUMBER	DESCRIPTION	UNIT
204.9060.S.203	Removing Traffic Control Signs Fixed Message Left in Place	Each

204-025 (20041005)

7.12 Maintenance and Removal of Crash Cushions Temporary Left In Place by Others, Item SPV.0060.200.

A Description
This special provision describes maintaining and removing temporary crash cushions left in place by others in accordance to standard spec 614.

The crash cushion left in place by others becomes the property of the contractor upon notice to proceed.

B Materials
Furnish any replacement materials for the temporary crash cushions left in place by others in accordance to the pertinent requirements of standard spec 614.2.

C Construction
Maintain and remove the temporary crash cushion in accordance to standard spec 614.3.4.

D Measurement
The department will measure Maintenance and Removal of Crash Cushions Temporary Left In Place by Others as each individual crash cushion location, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.200	Maintenance and Removal of Crash Cushions Temporary Left In Place by Others	Each

Payment is full compensation for maintaining and removing the crash cushions; removing and disposing of all materials.
(NER41-20120214)

7.13 Truck Mounted Attenuator with Operator, Item SPV.0075.200; Truck Mounted Attenuator without Operator, Item SPV.0075.201.

A Description
This special provision describes furnishing a truck with Truck Mounted Attenuator (TMA) and operator, if required, for use on this project during operations which are directly next to live lanes of traffic which have limited mobility, limited ingress/regress, confined space, or as directed by the engineer. All work shall be in accordance to standard spec 643, the plans, and as directed by the engineer. Request to protect construction workers from construction vehicle traffic will be denied for this item.

Use of a TMA should be requested to the engineer for approval 72 hours prior to its use or at the prior weekly construction meeting. Approval or denial will be given within 24 hours of request.

B Materials
Provide a TMA that meets the requirements of the NCHRP Report 350, and a truck meeting the TMA manufacturer's recommendations with a minimum total gross vehicle weight of 25,000 pounds.

For the TMA with Operator bid item, provide an operator who shall remain with the vehicle at all times during moving operations.

C (Vacant)

D Measurement
The department will measure Truck Mounted Attenuator with Operator by the hour, acceptably completed. The measured quantity will equal the number of hours the TMA including the truck and operator are used in protection of workers.

The department will measure Truck Mounted Attenuator without Operator by the hour acceptably completed. The measured quantity will equal the number of hours the TMA without an operator is used in protection of workers.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.200	Truck Mounted Attenuator with Operator	HRS
SPV.0075.201	Truck Mounted Attenuator without Operator	HRS

Payment is full compensation for mobilizing and furnishing each truck with truck mounted attenuator (TMA) and operator, if required.

Delivery, set up, and removal of the TMA without Operator is incidental to the Truck Mounted Attenuator without Operator bid item.
(NER41-20101001)

7.14 Traffic Control for Duck Creek Recreational Vehicles, Item SPV.0105.200.

A Description
While maintaining Duck Creek access through the work zone for recreational vehicles (boats, snowmobiles, etc.), furnish, salvage, place, move, and maintain 7-inch diameter buoys and signs to provide traffic control for Duck Creek recreational vehicles, as shown in the plan. Buoys and signs are to be used to delineate traffic for recreational vehicles through the construction site as shown on the plans and directed by the engineer.

B Materials
For signs, conform to standard specs 637.2 and 643.2.

On the 7-inch diameter buoys, provide red flashing lights operating at 30 flashes per minute.

Provide materials suitable to securely fasten signs and buoys.

C Construction
Adhere to conditions in the Waterway Marker Permit, granted by the Wisconsin Department of Natural Resources on March 12, 2013, and renewed on August 11, 2014, to postpone the expiration date from September 30, 2015 to November 30, 2016. A copy of the buoy permit is available from the regional office by contacting Eric Gwidt at (920) 492-7373 .

As provided in the plan, securely place buoys and signs prior to constructing or placing features hazardous to recreational vehicles in Duck Creek. Do not remove buoys or signs until hazardous features are removed from Duck Creek.

Boat excluded buoy and hazard warning buoy, type and requirements shall conform to the Bureau of Law Enforcement, Department of Natural Resources Publication PUB-LE-317-92, as shown on the plans and as hereinafter provided. This work also includes providing a temporary support system for the end of the safety cable attached to a stable feature, such as the pier of an existing or proposed structure.

Maintain Duck Creek access through the work zone for recreational vehicles at all times. Move buoys and signs as construction operations change, and causeways are moved, as shown in the plan.

Two calendar weeks in advance of bridge work over the waterway, including removal of the superstructure for bridges B-5-70 and B-5-71, and the setting of girders for bridge B-5-682, notify the maintaining authority for boat landings on Duck Creek upstream of the USH 41 crossing, which is the Village of Howard. Contact Geoff Farr, (920) 434-4060.

Buoys were left in place in summer 2015 by others after construction of northbound USH 41 Structure B-05-681 under Project 1133-11-74 to facilitate safe navigation between piers for the existing bridges for northbound USH and southbound USH 41, and the pier for new Structure B-05-681. Prior to October 30, 2015, buoys will be maintained by others under Project 1133-10-71. Inspect with the engineer buoys and signs left in place, to determine which features can be salvaged for further use, and which features need to be replaced.

D Measurement

The department will measure Traffic Control for Duck Creek Recreational Vehicles as a single complete lump sum unit of work, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.200	Traffic Control for Duck Creek Recreational Vehicles	LS

Payment is full compensation for furnishing, salvaging, placing, fastening, moving, and maintaining all new or salvaged traffic signs, danger buoys, safety cable and attachments and similar control devices; for inspection with the engineer of existing buoys and signs left in place by others; for replacement or salvage of left-in-place signs and buoys as agreed to by the engineer; for coordination with the Village of Howard; for removal of all materials, whether supplied new or left-in-place; for maintaining and moving buoys and signs; and for maintaining recreation vehicle access through the work zone.

8. Utilities and Railroads.

8.1 Utilities.

This contract comes under the provision of Administrative Rule Trans 220.
107-065 (20080501)

There are utility facilities within the construction limits of this project. Additional detailed information regarding the location of discontinued, relocated, and/or removed utility facilities is available in the work plan provided by each utility company or on the permits issued to them. View these documents at the Regional Office during normal working hours.

Work around or remove and dispose of any discontinued utility conduits, cables, and pipes encountered during excavation. Any removal and disposal shall be incidental to common excavation, unless specified otherwise in this contract as a separate bid item.

Some of the utility work described below is dependent on prior work being performed by the contractor at a specific site. In such situations, provide a good faith notice to both the engineer and the affected utility of when the utility is to start work at the site. Unless specified otherwise in this article, provide this notice 14 to 16 calendar days in advance of when you anticipate the prior work being completed and provide a confirmation notice to the engineer and the utility 3 to 5 working days before the site will be ready for the utility to begin its work.

Project 1133-10-75

(1) **AT&T Wisconsin** has overhead communication facilities along the left side of Island Court from approximately 59‘IS’+00 to 69‘IS’+00 where the facility crosses to the right side of Island Court. The facility then continues along the right side of Island Court to approximately 71‘IS’+00 where it goes underground. The facility continues along the right side of Island Court to a crossing of Velp Avenue. No conflicts are anticipated.

(2) AT&T Wisconsin has underground communication facilities along the left side of Velp Avenue from approximately 101‘VEW’+50 to a crossing of Velp Avenue at approximately 114‘VEW’+25. The facility then continues along the right side of Velp Avenue to beyond project limits.

(3) AT&T Wisconsin plans to discontinue its facilities in place along the right side of Velp Avenue from a manhole at approximately 114‘VEE’+00 to southeast of project limits.

(4) AT&T Wisconsin plans to install new underground communication facilities along the right side of Velp Avenue from the manhole at approximately 114‘VEE’+00 to southeast of project limits.

(5) AT&T Wisconsin plans to start work described above on March 1st, 2015 and anticipates needing 30 working days to complete.

(6) AT&T Wisconsin has underground communication facilities along the right side of the North Frontage Road throughout project limits. No conflicts are anticipated.

(7) AT&T Wisconsin has underground communication facilities along the right side of Memorial Drive from a crossing at approximately 510‘MNN’+50 to north of project limits. No conflicts are anticipated.

(8) AT&T Wisconsin has underground facilities along the right side of Memorial Drive from approximately 505‘MS’+00 to 508‘MNN’+00. From there the facility crosses to the left side of Memorial Drive and continues to a pedestal at approximately 512‘MNN’+00. No conflicts are anticipated.

(9) **Green Bay Metropolitan Sewerage District (GBMSD)** has **sanitary sewer** facilities along Island Court and Memorial Drive. Along these facilities are multiple manholes that will need to be adjusted to final grade. Contact GBMSD five working days prior to the manholes needing to be adjusted to final grade. GBMSD anticipates needing one working day to adjust manholes.

(10) During construction GBMSD plans to install new sanitary sewer facilities crossing USH 41 at approximately STA 1181‘VEC’+50. The work is tentatively scheduled for August 2015 to December 2016. GBMSD will have work areas southeast of US 41 adjacent to North Memorial Drive and northwest of US 41 at the north end of the Project Access Road. Coordinate with GBMSD as needed.

(11) **Time Warner Cable, a Delaware Limited Partnership** has overhead **communication** facilities on Island Court throughout project limits on WPS Electric poles. No conflicts are anticipated.

(12) Time Warner Cable has overhead communication facilities along the left side of Velp Avenue from northwest of project limits to approximately 104‘VEW’+00 on WPS Electric poles. No conflicts are anticipated with this facility.

(13) Time Warner Cable has underground communication facilities along the left side of Velp Avenue from approximately 104‘VEW’+00 to 119‘VEW’+50. This facility crosses ramps ‘VECA’ and ‘VEC’ at approximately 1174‘VEC’+85 and ramp ‘VEB’ at approximately 1176‘VEB’+25. No conflicts are anticipated with this facility.

(14) Time Warner Cable plans to install new underground facilities jointly with WPS Electric northwest of the proposed Memorial Roundabout. The facility will cross Velp Avenue at approximately 115‘VEW’+20 and continue along the left side of Memorial Drive South to approximately 503‘MS’+75. Time Warner Cable plans to complete this work prior to construction.

(15) Time Warner Cable plans to install new overhead facilities jointly with WPS Electric along the left side of Memorial Drive South from approximately 503‘MS’+75 to 501‘MS’+75. Time Warner plans to complete this work prior to construction.

(16) The **Village of Howard** has **sanitary sewer** facilities crossing Island Court at approximately 60‘IS’+00. The facility then continues along the left side of Island Court to approximately 72‘IS’+25 where the facility crosses Island Court and terminates. No conflicts are anticipated with this facility.

(17) The Village of Howard has sanitary sewer facilities along the right side of Memorial Drive North from approximately 508‘MNW’+00 to north of construction limits. No conflicts are anticipated with this facility.

(18) The Village of Howard has sanitary sewer facilities along the left side of the North Frontage Road throughout project limits. No conflicts are anticipated with this facility.

(19) The Village of Howard has sanitary sewer facilities crossing the North Frontage Road at approximately 113‘NFR’+25; the facility then continues south and crosses Velp Avenue at approximately 119‘VEW’+00. From there the facility continues along the left side of the South Frontage Road to the centerline line of Memorial Drive South at approximately 503‘MS’+25. The facility then continues along the centerline of Memorial Drive South to south of construction limits. No conflicts are anticipated.

(20) The Village of Howard has manholes near 106‘VEW’+00, 503‘MS’+24, 507‘MNN’+91, 508‘MNN’+33, 503‘MNS’+99, and 12‘SFR’+29. The Village of Howard plans to adjust these manholes to grade during construction. Contact the Village of Howard per Trans 220.05(10) to have the manholes adjusted. The Village of Howard anticipates needing one working day to adjust manholes.

(21) The Village of Howard has manholes discontinued in place near 104+10 RT, 104+33 RT, 106+00 RT, 108+32 RT, 111+14 RT 113+71 RT, 115+58 RT, 118+75 RT and 123+76 RT. No special care is required near these facilities and the cone and casting may be removed. No conflicts are anticipated.

(22) The **Village of Howard** has **water** facilities along the right side of Island Court throughout construction limits. This facility crosses Velp Avenue at approximately 101‘VEW’+00. No conflicts are anticipated.

(23) The Village of Howard has water facilities along the left side of Velp Avenue from east of project limits to approximately 104‘VEW’+00.

(24) The Village of Howard plans to relocate a hydrant near 104‘VEW’+25 to behind the proposed sidewalk. The Village of Howard plans to complete this work prior to construction.

(25) The Village of Howard has water facilities along the right side of Memorial Drive from south of project limits to the intersection with the South Frontage Road. The facility then crosses the South Frontage Road at approximately 10‘SFR’+50. The facility then continues along the left side of the South Frontage Road to approximately 12‘SFR’+00 where it crosses Velp Avenue at approximately 118 VEW’+75. The facility then runs along the right side of the North Frontage Road throughout project limits. No conflicts are anticipated.

(26) The Village of Howard has water facilities along the right side of Memorial Drive from north of construction limits to approximately 507‘MNN’+00.

(27) The Village of Howard’s water facilities along the right side of Memorial Drive are insulated. If any of this insulation is disturbed during storm sewer excavation coordinate with the Village of Howard to get new insulation to place over the watermain.

(28) The Village of Howard plans to relocate their watermain along the right side of Velp Avenue further right from approximately 509‘MNN’+00 to 509‘MNN’+30. The Village of Howard plans to complete this work prior to construction. No conflicts are anticipated.

(29) The Village of Howard has water valves throughout project limits. The Village of Howard plans to adjust these valves to grade during construction. Contact the Village of Howard per Trans 220.05(10) to have the valves adjusted. The Village of Howard anticipates needing one working day to adjust valves.

(30) The Village of Howard has valves that have been discontinued in place and filled with stone near 107+90 LT, 115+77 RT, 115+88 RT 115+89 RT, 116+92 RT, and 117+84 LT. No special care is required near these facilities and they may be removed. No conflicts are anticipated.

(31) **Windstream KDL, Inc.** has overhead **communication** facilities on WPS poles on the east side of Memorial Drive, starting south of construction limits, crossing Velp Avenue at approximately STA 117‘VEW’+00. From there the facility continues southeast along the north side of Velp Avenue to beyond construction limits.

(32) Prior to construction Windstream plans to remove the overhead facilities described about.

(33) Prior to construction Windstream plans to install new underground facilities starting at an existing handhole in the southeast quadrant of the Memorial Drive and South Frontage Road intersection. From there the facility will continue along the right side of the South Frontage Road to east of construction limits. The facility then crosses Velp Avenue at approximately 120‘VEW’+00 and ties into an existing handhole on the right side of the North Frontage Road. No conflicts are anticipated.

(34) **Wisconsin Public Service (WPS)** has overhead **electric** facilities along the left side of Island Court. The facility crosses Island court at approximately 69‘IS’+00 at a skew and continues along the right side. The facility then crosses Velp Avenue at approximately 101‘VEW’+50. No conflicts are anticipated with this facility.

(35) WPS has overhead electric facilities along the left side of Velp Avenue from west of construction limits to approximately 105‘VEW’+50. The facility then goes underground and continues to the intersection of Velp Avenue and Memorial Drive. No conflicts are anticipated with this facility.

(36) WPS has overhead electric facilities crossing Velp Avenue at approximately 102‘VEW’+50. No conflicts are anticipated with this facility.

(37) WPS has overhead electric facilities along the left side of Memorial Drive from north of project limits to approximately 116‘VEW’+00 LT. The facility then crosses Memorial Drive to and heads south to 501‘MS’+35 RT with a crossing near 502‘MS’+92. From 116‘VEW’+60 LT the facility also continues along the right side of the North Frontage Road to approximately 13‘NFR’+00. The facility then crosses the North Frontage road and terminates.

(38) Prior to construction WPS plans to replace the above described facilities with underground electric facilities from the existing pole near 501‘MS’+35 RT, crossing Memorial Drive to a new pole near 501‘MS’+78 LT. WPS also plans to install a new pole near 502‘MS’+23 RT and place OH facilities to a new pole near 502‘MS’+62 LT, continuing to a new pole near 503‘MS’+75 LT. The facility then continues underground near the right of way line to a junction near 115‘VEE’+15 RT. The facility continues to 114‘VEE’+25 RT where it ties into existing facilities. The facility also crosses Velp Avenue from the junction near 115‘VEE’+15 RT to an existing junction near 115‘VEW’+69 LT. No conflicts are anticipated.

(39) WPS has underground electric facilities along the right side of the North Frontage Road throughout project limits. No conflicts are anticipated with this facility.

(40) WPS has underground electric facilities crossing Velp Avenue at approximately 127‘VEW’+50 and 121‘VEW’+50. No conflicts are anticipated with this facility

(41) **Wisconsin Public Service (WPS)** has **gas** facilities along the left side of Velp Avenue from northwest of construction limits to approximately 102‘VEW’+50. The facility then crosses Velp Avenue and continues along the right side Velp Avenue, crossing ramps VED and VEA, and Memorial Drive, to southeast of the project limits.

(42) Prior to construction, WPS plans to discontinue in place the facility from the crossing near 102‘VEW’+50 to approximately 117‘VEE’+50 RT.

(43) Prior to construction WPS plans to install a new facility crossing Velp Avenue at approximately 102‘VEW’+50. The facility continues along the right side of Velp Avenue, crossing ramp VED at approximately 1170‘VED’+25 and ramp VEA at approximately 1169‘VEA’+50. The facility will tie into the existing gas main near 117‘VEE’+50. No conflicts are anticipated with this facility

(44) WPS has gas facilities crossing Velp Avenue at approximately 101‘VEW’+25. The facility then continues along the right side of Island Court to approximately 61‘IS’+00 where the facility crosses to the left side of Island Court. The facility continues on the left side of Island Court to approximately 59‘IS’+00 where it terminates. No conflicts are anticipated with this facility.

(45) WPS has gas facilities along the left side of Memorial Drive South throughout project limits. No conflicts are anticipated with this facility.

(46) WPS has gas facilities crossing Memorial Drive South at approximately 502‘MS’+25. WPS plans to lower this facility during construction. Prior to the removal of pavement, contact WPS per Trans 220.05(10) to have WPS on site to lower the facility. WPS anticipates needing 2 working days to complete this work.

(47) WPS has gas facilities along the left side of the North Frontage Road throughout project limits. No conflicts are anticipated with this facility.

(48) WPS has gas facilities along the right side of Memorial Drive North throughout project limits. No conflicts are anticipated with this facility.

(49) WPS has gas facilities crossing Memorial Drive North at approximately 510‘MNN’+70. WPS plans to lower this facility during construction. Prior to the removal of pavement, contact WPS per Trans 220.05(10) to have WPS on site to lower the facility. WPS anticipates needing 2 working days to complete this work.

(50) The following utility has facilities within the construction limits, however no adjustments are anticipated:

a. ATC Management, Inc.

b. CenturyLink

c. Net Lec LLC

Project 1133-10-77

(1) **Brown County IT Department** has a **communication** hand hole on the left side of Weitor Drive at approximately STA 107‘WT’+10. Brown County IT Department plans to raise this hand hole during construction. Contact Brown County IT Department five (5) working days prior to grading around the hand hole, and allow one (1) working day for this work to be completed.

(2) Brown County IT Department has facilities near the bridges B-5-762 and B-5-676. Brown County IT Department will have a representative on site for the removal and construction of these structures. Notify Brown County IT Department per Trans 220.05(10) prior to any work occurring in these areas to have a representative on site for inspection.

(3) **CenturyLink** has underground **communication** facilities along the left side of US 41 from south west of project limits to approximately STA 1194‘VEC’+00. From there the facility continues south east along Weitor Drive. CenturyLink will have a construction representative present for removal and construction of bridges B-5-672 and B-5-676. Please contact Rudy Wheeler at 1-920-362-1184 one week in advance of when a construction representative will be required.

(4) **Green Bay Metropolitan Sewerage District (GBMSD)** has **sanitary sewer** near retaining wall R-5-86. GBMSD will have a representative on site for construction of retaining wall R-5-86. Contact GMBSD 5 working days prior to construction of retaining wall R-5-86 near their facility in order to have a representative on site.

(5) GBMSD has a temporary sanitary sewer facility crossing USH 41 at approximately 1184‘NMC’+75. Prior to construction, GBMSD plans to remove the facility except a portion crossing Ramp ‘VEC’ at approximately STA 1184‘VEC’+00 and Ramp ‘IHB’ at approximately 1117‘IHB’+00. This portion of the facility will be discontinued in place. This facility can be removed for construction of storm sewer and retaining walls. Contact GBMSD per Trans 220.05(10) three weeks prior to removing any portion of the facility to have the facility slurried.

(6) During construction GBMSD plans to install new sanitary sewer facilities. The work is tentatively scheduled for the winter of 2015/2016. Coordinate with GBMSD as needed.

(7) **Merit Network** has underground **communication** facilities in a joint conduit with Brown County IT Department that are described elsewhere in the utilities article of the special provisions.

(8) **Windstream KDL, Inc.** has underground **communications** facilities in the Wisconsin Central LTD Railroad right of way. Contact Windstream KDL per Trans 220.05(10) prior to placing temporary sheeting and excavating for piers for bridge B-5-673 to have a construction representative on site.

(9) **Wisconsin Public Service Corporation** has an **electric** pole on the left side of Weitor Drive near 110‘WT’+00. Prior to construction, WPS plans to set a new pole deeper to avoid grade cuts. No conflicts are anticipated with this facility.

(10) WPS has an electric pole on the right side of IH-43 near 1163‘NIH’+00. Prior to construction, WPS plans to set a new pole deeper to avoid grade cuts. No conflicts are anticipated with this facility.

(11) **Wisconsin Public Service Corporation** plans to install **gas** facilities crossing USH 41 at approximately 1170‘SMC’+00. WPS plans to complete this work prior to construction. No conflicts are anticipated.

(12) The following utility has facilities within the construction limits, however no adjustments are anticipated:

a. AT&T Wisconsin

b. ATC Management, Inc.

c. City of Green Bay (Sewer)

d. Green Bay Water Utility

e. Time Warner Cable a Delaware Limited Partnership

f. Village of Howard Water and Sewer Department (Sewer and Water)

8.2 Railroad Insurance and Coordination.

A Description
Comply with standard spec 107.17 for all work affecting Wisconsin Central Ltd. property and any existing tracks.

A.1 Railroad Insurance Requirements
In addition to standard spec 107.26, provide railroad protective liability insurance coverage as specified in standard spec 107.17.3. Insurance is filed in the name of Wisconsin Central Ltd. (d.b.a. Canadian National).

Notify evidence of the required coverage, and duration to Jackie Macewicz, Manager Public Works at 1625 Depot St., Stevens Point, WI, 54481. Include the following information on the insurance document:

Project: 1133-10-77
Route Name: USH 41 and IH 43 interchange, Brown County
Limits: Memorial Dr. – Duck Creek, SB IH 43 Interchange
Crossing ID: 188337B
Railroad Subdivision: Manistique
Railroad Milepost: 3.7

A.2 Work by Railroad
The railroad will perform the work described in this section, except for work described in other special provisions and will be accomplished without cost to the contractor. None

A.3 Names and addresses of Railroad Representatives for Consultation and Coordination
Contact Jackie Macewicz, Manager Public Works, 1625 Depot St., Stevens Point, WI, 54481; TELEPHONE (715) 345-2503; FAX (715) 345-2534; email jackie.macewicz@cn.ca for consultation on railroad requirements during construction.

Contact Mary Ellen Carmody, Audit Officer, Administration Service Center, 700 Pershing Street, Pontiac, MI 48340; TELEPHONE (248) 452-4705; FAX (248) 452-4972; email maryellen.carmody@cn.ca for flagging arrangements. Advise Ms. Carmody that the flagging services are to be billed at the rate for a public highway project.

Amend standard spec 108.4 to include the railroad in the distribution of the initial bar chart, and monthly schedule updates. The bar chart shall specifically show work involving coordination with the railroad.

A.4 Temporary Grade Crossing
If a temporary grade crossing is desired, submit a written request to the railroad representative named in A.3 several weeks prior to the time needed. Approval is subject to the discretion of the railroad. The department has made no arrangements for a temporary grade crossing.

A.5 Train Operation
Approximately 8 through freight trains operate daily through the construction site. Through freight trains operate at up to 20 mph.

B Railroad Flagging
Arrange with the railroad for the flagging of trains and safety of railroad operations if clearances specified in standard spec 107.17.1 are not maintained during construction operations. The following conditions may also warrant flagging:

• Cranes swinging or handling materials or equipment within 25 feet of the centerline of any track.
• Construction operations that are in proximity of power lines or railroad signal and communication lines, underground cables, fuel oil facilities or pipe lines and which might result in fire or damage to such facilities, danger to railroad operations or danger to the public in the transaction of business on railroad premises.
• Excavation, tunneling, blasting, pile driving, placing, or removing cofferdams or sheeting, or similar activities might cause the railroad's tracks or buildings to be undermined, heaved out of normal level, shifted out of alignment, or otherwise impaired.
• Bridge painting activities including rigging of falsework, scaffolding or similar activities within 25 feet of the centerline of any track.
• Deck removal activities within 25 feet of the centerline of any track.
• Pouring of bridge decks in spans over an operated track.
• At any other time in railroad representative's judgment, the contractor's work or operations constitute an intrusion into the track zone and create an extraordinary hazard to railroad traffic, and at any other time when flagging protection is necessary for safety to comply with the operating rules of the railroad.

Projects with concurrent activity may require more than one flagger.

Projects with heavy contractor activity within 25 feet of the centerline of any track or unusual or heavy impact on railroad facilities will normally require a full-time flagger.

The department and railroad will monitor operations for compliance with the above flagging requirements. Violations may result in removal from railroad property until arrangements to adhere to the flagging requirements are satisfied. If the railroad imposes additional flagging requirements beyond the above flagging requirements due to the previous violations, the contractor shall bear all costs of the additional flagging requirements.

C Flagging by Railroad– Railroad Does Not Pay Flagging Costs

C.1 General

Replace paragraph (3) of standard spec 107.17.1 with the following:

Comply with the railroad's rules and regulations regarding operations on railroad right-of-way. If the railroad's chief engineering officer requires, arrange with the railroad to obtain the services of qualified railroad employees to protect railroad traffic through the work area. Bear the cost of these services and make payment directly to the railroad. Notify the appropriate railroad representative as listed in section A.3 above, in writing, at least five business days before starting work near a track. Provide the specific time planned to start the operations.

Extended Duration Work or Longer Work Day

Work that requires railroad flaggers to occupy the work zone for longer duration or longer than the normal work day will require 40 day written notice to the railroad.

C.2 Rates – Canadian National (WCL, SSMBrCo, DM&IR, DWP)

The following rates, reimbursement provisions, and excluded conditions will be used to determine the contractor's cost of flagging:

$1,000 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a minimum eight-hour flagging day at the job site;

$1,200 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a minimum eight-hour flagging day at the job site on Saturdays, Sundays or holidays;

$150 per hour overtime rate for all time worked before or after the eight hour flagging day.

The flagger is required to set flags each day in advance of the contractor commencing work that will require flagging. The flagger must also remove the flags each day after the completion of work that required flagging. Any time worked before or after the minimum eight-hour flagging day to set or remove flags will be billed at the overtime rate. The contractor is responsible for knowing the requirements of the railroad for arranging and terminating flagging services and for the associated costs of those services.

C.3 Reimbursement Provisions

The actual cost for flagging will be billed by the railroad. After the completion of the work requiring flagging protection as provided in section B above, the department will reimburse 50% of the cost of such services up to the rates provided above based on paid railroad invoices, except for the excluded conditions enumerated below. In the event actual flagging rates exceed the rates stated above, the department will reimburse 100% of the portion of the rate that is greater than the rates stated above.

C.4 Excluded Conditions

The department will not reimburse any of the cost for additional flagging attributable to the following:

• Additional flagging requirements imposed by the railroad beyond the flagging requirements provided in subsection B above due to violations by the contractor.
• Temporary construction crossings arranged for by the contractor.

The contractor shall bear all costs of the additional flagging requirements for the excluded conditions.

C.5 Payment for Flagging
Railroads may issue progressive bills. Notify the railroad when the work is completed and request a final bill from the railroad. The railroad will issue a final bill. Promptly pay railroad-flagging bills, less any charges that may be in dispute. The department will pay for flagging reimbursement under the Railroad Flagging Reimbursement administrative item. The department will withhold flagging reimbursement until any disputed charges are resolved and the final bill is paid. No reimbursement for flagging will be made by the department if a violation of subsection B is documented.
107-034 (20130615)

8.3 Electrical Service.

A Description
Work under this item shall be in accordance to standard spec 656 with the following addition.

B (Vacant)

C Construction
Under this item, the department will perform preliminary coordination with the utility to arrange for installation of the Service Lateral(s). The Utility will provide the department with a utility routing number for each lateral.

The contractor is responsible to arrange for the actual installation of the Service Lateral with the utility. The contractor is also responsible for payment of the Service Lateral installation in accordance to standard spec 656. The contractor shall contact the department at (920) 492-5628 to obtain the utility routing number established during preliminary utility coordination.

8.4 Utility Line Opening, Item SPV.0060.009.

A Description
This special provision describes excavating to uncover utilities for the purpose of determining elevation and potential conflicts as shown on the drawings and directed by the engineer and as hereinafter provided.

B (Vacant)

C Construction
The excavation will be done in such a manner that the utility in question is not damaged and the safety of the workers is not compromised.

The utility line openings will be performed as soon as possible and at least 10 days in advance of proposed construction to allow any conflicts to be resolved with minimal disruption. Where utilities are within 6 feet of each other at a potential conflict location, only one utility line opening will be called for. In these cases, a single utility line opening will be considered full payment to locate multiple utilities. Utility line openings will

include a trench up to 10 feet long as measured at the trench bottom and of any depth required to locate the intended utility.

All utility line openings will be approved and coordinated with the engineer. Notify the utility engineers or their agents of this work a minimum of 3 days prior to the work so they can be present when the work is completed.

D Measurement
The department will measure Utility Line Opening as each individual opening, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.009	Utility Line Opening	Each

Payment is full compensation for furnishing, hauling and placing of all materials; and for excavation, backfilling and disposing of excess material.

Concrete curb and gutter, and concrete sidewalk removals necessary to facilitate utility line openings will be measured and paid for separately.

Place 6 inches of Base Aggregate Dense 1¼-inch on surface of utility opening. Base Aggregate Dense 1¼-inch will be measured and paid for separately.

9. Clear – Demolition – Removal.

9.1 Clearing and Grubbing.

Complete work in accordance to standard spec 201 and as herein provided.

Revise standard spec 201.3 as follows:

Burning of stumps, roots, brush, waste logs and limbs, timber tops, and debris resulting from clearing and grubbing is not allowed.
(NER41-20100201)

Grubbing
Do not grub in wooded swamp wetland areas under bridges not within the limits of haul road or fingers used to construct pier footings. Submit to the department a clearing plan that will minimize ground disturbance in the area that will not be grubbed.

Clearing
Only clear trees necessary for construction of the project. Clearing the entire right-of-way is not allowed. Coordinate with engineer all areas to be cleared before work starts. Clearing trees in wetland areas is considered a wetland impact that is regulated by the project's U. S. Army Corps of Engineers Section 404 permit.

9.2 Removing or Abandoning Miscellaneous Structures.

Supplement standard spec 204.3.2.2 (1) with the following:

Any mesh or reinforcement that is found in concrete pavements or other removal items is incidental to the removal bid item(s) included in the contract.
(NER41-20111018)

9.3 Removing Old Structure.

Replace standard spec 203.1(1) with the following:

This section describes wholly or partially removing or closing existing culverts, bridges and sign structures, disposing of the resulting materials, or if required, salvaging and storing designated materials.

Add the following to standard spec 203.3:

Remove existing sign structures in accordance to standard spec 638.3.6.

Replace standard spec 203.4(2) with the following:

The department will measure the Removing Old Structure bid items as a single lump sum unit for each culvert, bridge or sign structure removal designated in the proposal and acceptably completed.

9.4 Removing Guardrail.

Remove guardrail in accordance to the pertinent requirements of standard spec 204 and as hereinafter provided.

Carefully remove, disassemble at all joints, and stockpile at a location on the right-of-way, outside the construction limits, all salvageable posts, guardrail and hardware for pickup by Brown County Forces. Cutting of rail panels is not permitted.

Give one week advance notice to Brown County before starting the beam guard removal work to coordinate pickup arrangements. Notify Randy Braun at (920) 662-2169

Remove and properly dispose of all other material from the right-of-way.
(NER11-0127)

9.5 Abandoning Sewer, Item 204.0291.S.

A Description
This special provision describes abandoning existing sewer by filling it with cellular concrete according to the pertinent requirements of standard spec 204 and standard spec 501, as shown in the plans, and as hereinafter provided.

B Materials
Provide cellular concrete meeting the following specifications: 1 part cement, 1 part fly ash, 8 parts sand, or an approved equal, and water. Provide cement meeting the requirements of standard spec 501.2.1 for Type 1 Portland Cement. Provide sand meeting the requirements of standard spec 501.2.5.3 Provide water meeting the requirements of standard spec 501.2.4.

C Construction
Fill the abandoned sewer pipe with cellular concrete as directed by the engineer. In the event that the sewer cannot be completely filled from existing manholes, tap the sewer where necessary and fill from these locations.

D Measurement
The department will measure Abandoning Sewer in volume by the cubic yard according to standard spec 109.1.3.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
204.0291.S	Abandoning Sewer	CY

Payment is full compensation for furnishing all materials and excavating and backfilling where necessary.
204-050 (20080902)

9.6 Removing Temporary Shoring Left in Place, Item 204.9090.S.001.

A Description
This special provision describes removing temporary shoring left in place by others in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C Construction
Remove all of the shoring that is buried, in addition to the portion of the shoring that is exposed.

D Measurement
The department will measure Removing Temporary Shoring Left in Place by the linear foot measured along the exposed surface horizontally, along the centerline of the shoring, acceptably completed.

E Payment
Supplement standard spec 204.5 to include the following:

ITEM NUMBER	DESCRIPTION	UNIT
204.9090.S.001 204-025 (20041005)	Removing Temporary Shoring Left in Place	LF

9.7 Removing Sanitary Sewer Pipe 12-Inch, Item 204.9090.S.003.

A Description
This special provision describes removing sanitary sewer pipe 12-inch in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C Construction
Remove the concrete slurried HDPE sanitary sewer pipe within the limits as shown in the plans and in conflict with proposed construction.

D Measurement
The department will measure Removing Sanitary Sewer Pipe 12-Inch by the linear foot, acceptably completed.

E Payment
Supplement standard spec 204.5 to include the following:

ITEM NUMBER	DESCRIPTION	UNIT
204.9090.S.003 204-025 (20041005)	Removing Sanitary Sewer Pipe 12-Inch	LF

9.8 Removing Concrete Barrier Temporary Precast Left in Place, Item 204.9090.S.002.

A Description
This special provision describes removing Concrete Barrier Temporary Precast Left in Place in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B Materials
Concrete Barrier Temporary Precast left in place by others becomes the property of the contractor upon notice to proceed.

C (Vacant)

D Measurement
The department will measure Removing Concrete Barrier Temporary Precast Left in Place by the linear foot, acceptably completed.

E Payment
Supplement standard spec 204.5 to include the following:

ITEM NUMBER	DESCRIPTION	UNIT
204.9090.S.002	Removing Concrete Barrier Temporary Precast Left in Place	LF

204-025 (20041005)

9.9 Removing Traffic Signals (USH 41 NB and Velp Avenue), Item SPV.0105.450; Removing Traffic Signals (USH 41 SB and Velp Avenue), Item SPV.0105.451.

A Description
This work shall consist of removing the existing traffic signal equipment from the intersections of USH 41 NB and Velp Avenue and USH 41 SB and Velp Avenue and returning it to the WisDOT NE Region Facility at 944 Vanderperren Way, Green Bay, WI as shown in the plans and in accordance to the requirements of standard spec 657 and standard spec 658, standard detail drawings, and as hereinafter provided.

B (Vacant)

C Construction
The existing traffic signal equipment shall be disconnected from the concrete bases, carefully loaded, and transported to the WisDOT NE Region facility as described above. All signal heads and luminaries should remain attached to the standard, pole or respective mast arm. The microwave detection equipment, including the cabling, shall be removed and returned to the WisDOT NE Region facility with the traffic signal equipment. The contractor shall conduct operations in such a manner to prevent any damage to the traffic signal equipment. The contractor shall replace or repair any equipment that was damaged during this removal and transport operation. Prior to delivering the removed equipment, the contractor shall make arrangements with the WisDOT NE Region Electrical Personnel who can be reached at (920) 492-5654 or (920) 492-5710 for delivery to the regional facility.

Removing bases and pull boxes will be paid as a separate item and are not included herein.

D Measurement
The department will measure Removing Traffic Signals (USH 41 NB and USH 141) and Removing Traffic Signals (USH 41 SB and Velp Avenue) and as single lump sum unit of work, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.450	Removing Traffic Signals (USH 41 NB and Velp Avenue)	LS
SPV.0105.451	Removing Traffic Signals (USH 41 SB and Velp Avenue)	LS

Payment for Removing Traffic Signals is full compensation for removal, disassembly, and delivery to the regional facility.

10. Earthwork.

10.1 Notice to Contractor – Digital Terrain Model (DTMs).

The department will supply the existing and proposed Digital Terrain Models (DTMs) upon request. Contact Todd Sanders, (414) 897-3867 or Todd.Sanders@dot.wi.gov.

10.2 Notice to Contractor – Maintenance Roads.

The Maintenance Roads constructed under project 1133-11-74 cannot be used for construction of project 1133-10-77 except MR2 and MR3 as noted in the plans and special provisions. Construction of the remaining section of MR5 must be completed from SIH alignment.

10.3 Embankment Construction.

Replace standard spec 205.3.2(4) with the following:

If placing embankment on side slopes 10-feet high or higher and steeper than one vertical to 3 horizontal, cut a minimum 2 foot horizontal bench into the existing embankment every 4 feet of vertical fill height.
(NER41-20100201)

10.4 Marsh Excavation.

Add the following to standard spec 205.2.5:

Provide notice to the engineer one week in advance of Marsh Excavation operations from Station 1197+00 IHA to Station 1202+00 IHA; Station 1188+60 OB2 to Station 1194+00 OB2; Station 1217+75 OB1 to Station 1219+50 OB1; Station 1190+00 SIH to Station

1214+00 SIH; Station 1214+50 SMC to Station 1216+00 SMC; Station 29+50 BP2 to Station 45+00 BP2; Station 1195+00 VEC to Station 1204+00 VEC to monitor the slope stability of the exposed 1:1 slopes. Backfill Marsh Excavation limits within specified timeframes as directed by the engineer.

10.5 Roadway Excavation.

Add the following to standard spec 205.5.2(1):

Provide the department with an earth flow diagram within 30 calendar days of receiving the contract Notice to Proceed.

Identify all excavation required for the project, shrinkage and swell factors, anticipated material available for embankment if stockpiling or off-site disposal is required, and location of material to be placed in embankment on the earth flow diagrams.

Upon acceptance of the earth flow diagram by the department, the department will include the earth flow diagram with the Bid Escrow Documentation.
(NER41-20121015)

10.6 Staged Embankment Construction.

Construct the proposed embankments from Station 1197+00 IHA to Station 1202+00 IHA, Station 1196+00 SIH to Station 1204+00 SIH, Station 1204+00 SIH to Station 1210+00 SIH, Station 1195+00 SMC to Station 1206+00 SMC, Station 1211+50 SMC to Station 1212+50 SMC, Station 1214+50 SMC to Station 1215+00 SMC in accordance to the plan, Section 207 of the Standard Specifications, and as hereinafter provided.

The embankment fill shall be placed to the extent of the proposed side slopes.

The control and placement of embankment fill will be based on the results of monitoring geotechnical instrumentation in the field. Installing the vibrating wire piezometer instrumentation system, after the installation of the strip drains and drainage blanket, will require a minimum of 5 working days at the project site for installation of the piezometers prior to the construction of the temporary roadway construction and prior to the construction of the first embankment lift within each designated area.

Each Stage of construction shall consist of phases. A phase is the placement of a lift to a specified total thickness. During the first phase of embankment construction, place the lift thickness shown in the table below in layers from the existing grade unless directed otherwise by the engineer.

Station Begin	Station End	Alignment	Feature	Total Est. Primary Settlement	Lift #	Lift Thickness	Average Depth of Strip Drain
1197+00	1202+00	IHA	Embankment and B-05-671	24 inches	1	12 feet	42 feet
					2	9 feet	
1196+00	1204+00	SIH	Embankment	24 inches	1	7 feet	40 feet
					2	10 feet	
1204+00	1210+00	SIH	Embankment	24 inches	1	12 feet	42 feet
					2	9 feet	
1195+00	1206+00	SMC	Embankment, and B-05-672	12 inches	1	7 feet	42 feet
					2	8 feet	
					3	12 feet	
1211+50	1212+50	SMC	South Abutment of B-05-682	6 inches	1	To 3 feet below subgrade	46 feet (west) 51 feet (east)
					2	3 feet	
1214+50	1215+00	SMC	North Abutment of B-05-682	6 inches	1	To 3 feet below subgrade	47 feet (west) 51 feet (east)
					2	3 feet	

Construct and compact the fill in accordance to standard spec 207.3.6.2. Do not place the next embankment construction phase (or pavement section) until instrumentation indicates that excess pore water pressures have been significantly dissipated and significant consolidation of the underlying soft soils has occurred. If these conditions have not occurred within 3 months, site conditions will be re-assessed and embankment construction procedures may be revised.

After the approval of the engineer, the next and subsequent phases of embankment construction (or placement of the pavement section) can begin. Place a maximum amount of lift thickness shown in the table above during any phase of embankment construction.

Subsequent embankment construction phases (or placement of the pavement section) may not be placed until excess pore water pressures have been significantly dissipated and the underlying soft soils have achieved a significant portion of their anticipated consolidation under the weight of the present embankment construction phase. Each phase should be constructed and compacted per standard spec 207.3.6.2.

The engineer may stop embankment construction operations at any time if instrumentation monitoring indicates impending movement or instability of the embankment fill.

Cooperate with the department and its representatives in the monitoring and protection of the geotechnical instrumentation in the embankment. Conduct construction activities such that the department has reasonable access to the terminal boxes and other geotechnical

instrumentation. Take all necessary precautions to ensure that all geotechnical instrumentation is not damaged, displaced, or misaligned by contractor activities. Furthermore if a geotechnical instrument is damaged by construction operations, the contractor shall pay for the repair of the geotechnical instrument, or if necessary, the replacement and installation of a new geotechnical instrument. Instrumentation identified as existing instrumentation installed under previous contract will be maintained, protected, read, and repaired as if it were installed under this contract.

Do not use excavated organic material for any portion of the embankment fill except as topsoil for landscaping purposes.

10.7 Borrow.

Replace standard spec 208.1(1) with the following:

This section describes constructing embankments and other portions of the work consistent with the earthwork summary and defines the contract requirements for borrow material if required by the plans or if the contractor elects to utilize off-site material to complete the roadway embankments.

Delete standard spec 208.2.2(2).

Add the following to standard spec 208.3:

The contractor shall be responsible for complying with all permit requirements in obtaining borrow materials.

Replace standard spec 208.4 with the following:

The department will not measure borrow.

Replace standard spec 208.5 with the following:

The department will not pay directly for work specified under this section. This work is incidental to the Roadway Embankment bid item.
(NER41-20121015)

10.8 Select Borrow.

Conform to the requirements of standard spec 208 and as hereinafter provided.

Material
Furnish and use material that consists of granular material meeting the following requirements: No more than 25% P-200 of that portion of the material passing the #4 Sieve.
208-005 (20031103)

10.9 Preparing the Foundation.

Add the following to standard spec 211.3.1:

The contractor shall plan construction activities such that the earth subgrade is covered by the roadway base in a timely manner upon completion of preparation of the subgrade or as directed by the engineer. The contractor is responsible for the removal of any excess water from the subgrade as a result of rainfall events or natural drainage.
(NER41-20110908)

10.10 Salvaged Topsoil.

Salvaged topsoil may be placed up to 12-inches thick on slopes. Dispose of any excess salvaged topsoil as detailed in standard spec 625.3.2.4.

Topsoil containing Phragmites plant or root fragments is to be incorporated and paid for as Salvaged Topsoil except as noted for Phragmites excavation. Only remove soil in Phragmites areas to a depth consistent with the stripped topsoil. Salvaged topsoil containing Phragmites material shall be placed in upland locations in the general area where the plant currently exists. Do not excavate the entire root system.

10.11 Geotextile Fabric Type ES.

Furnish and install Geotextile Fabric Type ES conforming to standard spec 645 and conforming to the following physical properties:

Test	Method	Value[(1)]	
		MD	CD
Tensile Strength at ultimate (lbs/ft)	ASTM D4595	68,532	6,853
Creep Reduced Strength (lbs/ft)	ASTM D5262	41,119	
Long Term Design Strength (lbs/ft)	GRI-GT7	33,983	
Tensile Strength in Machine Direction at 5% Strain (lbs/ft)	ASTM 4595	27,413	
UV Resistance at 250 hours (%)	ASTM D4355	100	

1. All numerical values represent minimum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

10.12 Drainage Blanket, Item SPV.0035.001.

A Description
This special provision describes furnishing and placing granular backfill within the limits shown on the plans and as directed by the engineer.

B Materials
The granular backfill for the drainage blanket shall meet the requirements of standard spec 209.2 for Granular Backfill, Grade 1.

C Construction
Place the granular backfill at the locations designated in the plan documents. Uniformly place the granular backfill to a depth of two feet, within the proposed embankment limits and leveled. Compact the granular backfill in accordance to standard spec 207.3.6.2.

Repair any excessive rutting or deformations in the drainage blanket caused by construction operations as directed by the engineer

D Measurement
The department will measure Drainage Blanket in cubic yards of volume in its final position and condition within the limits and in places designated on the plans, in the contract, or directed by the engineer, and in accordance to standard spec 209.4.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.001	Drainage Blanket	CY

Payment is full compensation for furnishing and placing all materials.

10.13 Roadway Embankment, Item SPV.0035.002.

Conform to standard spec 207 and as follows.

Replace standard spec 207.1(1) with the following:

This section describes placing in embankments and in miscellaneous backfills, material obtained under the bid items in the roadway and drainage excavation or excavation for structure sections.

Replace standard spec 207.4(1) with the following:

The department will measure roadway embankment by the cubic yard acceptably completed in its final location using the method of average end areas, with no correction for curvature or settlement, except as follows:

• The engineer and contractor mutually agree to an alternative volume calculation method;
• The method of average end areas is not feasible;
• Other methods are specified herein standard spec 207.4.

If it is not possible to compute volumes of the various classes of roadway and drainage embankment by the method of average end areas due to erratic location of isolated deposits, the department may compute the volumes by alternative methods involving three-dimensional measurements.

The department will not measure embankment material beyond the limits of the required slopes.

Replace standard spec 207.5(1) with the following:

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.002	Roadway Embankment	CY

The work includes forming, compacting, shaping, sloping, trimming, finishing, maintaining the embankments, and all other incidental work required under this section. (NER41-20121015)

10.14 Granular Material for ES Fabric, Item SPV.0035.004.

A Description
This special provision describes placing granular material in conjunction with geotextile Type ES fabric in accordance to standard spec 209 and as shown on the plan and directed by the engineer.

B Materials
Furnish granular material that is according to the pertinent requirements of standard spec 209.2.

C Construction
Take care not to damage fabric during placement and compaction of granular material. Replace or repair fabric damaged by construction operations. Construct in accordance to standard spec 209.3.

D Measurement
The department will measure Granular Material for ES Fabric by the cubic yard, acceptably completed, and in accordance to standard spec 209.4.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.004	Granular Material for ES Fabric	CY

Payment is in accordance to standard spec 209.5.

10.15 Vibrating Wire Piezometer Instrumentation System, Delivered, Item SPV.0060.003.

A Description

This special provision describes furnishing and delivering a vibrating wire piezometer instrumentation system a minimum of 21 days prior to start of placing embankments. It also includes providing a technical assistance representative from the company to aid in piezometer installation and to provide on-site technical support. Perform all according to the plans and as provided herein.

B Materials

Materials for the vibrating wire piezometer system shall include twelve vibrating wire piezometers, one data recorder, five terminal boxes, and necessary appurtenances.

Vibrating Wire Piezometers: A total of twelve vibrating wire piezometers shall be Geokon Model 4500S, 100 psi range (Geokon Incorporated, 48 Spencer Street, Lebanon, NH 03766, (603) 448-1562) or Slope Indicator Part Number 52611030 (Slope Indicator Company, 316 Forsyth Street, Raleigh, NC 27609-6314, (800) 929-4712), or an approved equal.

Each vibrating wire piezometer shall meet the following specifications:

Pressure Range (psi):	0-100
Over Range/Maximum Pressure:	2X rated pressure range
Resolution:	0.025% full scale (F.S.) minimum
Accuracy:	±0.1% of F.S.
Operating Temperature:	-20 °F to 150 °F
Thermal Zero Shift:	<0.05% F.S./°C or <0.04 psi/°C
Cable:	Four conductor, 20 or 22 gauge shielded cable with polyethylene jacket or an approved equal, connection between cable and instrument factory sealed (see table below for required length of cable)
Filter:	50 micron sintered stainless steel
Diameter of piezometer:	a 0.75 inches

Provide a canvas bag, 2½-inch by 18-inch, with each piezometer.

Calibrate all piezometers at the factory. Make calibrations while pressure is both increasing and decreasing for at least two cycles, to document hysteresis throughout the maximum range of the instrument. Take readings at a minimum number of eight equal increments, and require the manufacturer to supply a calibration curve with data points clearly indicated, and a tabulation of the data. Use the data recorder that is to be supplied under this item number during the factory calibrations. Make readings at a sufficient number of different temperatures which range from -20 °F to 120 °F to provide a calibration curve, and substantiate it, indicating the effect of temperature change on the instruments. Mark each piezometer with a unique identification number.

Signal cables and mechanical waterproof seals between the cable and the piezometer for each of the vibrating wire piezometers shall be factory installed. No splices shall be allowed. All cables shall be terminated with connectors compatible with terminal boxes furnished under this item. The required cable lengths shall be determined to extend from the tip of the piezometers to the ground level to the location of the readout box.

Feature	Description of Location	Station	Offset	Estimated Tip Elev.
B-05-682	Behind abutment	32+10 BP2	2’ LT of RL	552’ and 540’
B-05-682	Behind abutment	34+60 BP2	2’ LT of RL	547’ and 537’
B-05-673	Behind abutment	1195+00 SMC	15’ LT of RL	556’
Embankment	--	1198+00 SMC	10’ LT of RL	566’ and 553’
Embankment	--	1201+00 SMC	15’ LT of RL	552’
Embankment	--	1195+00 VEC	10’ LT of RL	556’
Embankment	--	1198+00 VEC	15’ LT of RL	566’ and 553’
Embankment	--	1201+00 VEC	15’ LT of RL	552’

Data Recorder: The data recorder shall include a battery charger, adaptors, and cables necessary for field operation, and the computer software required for downloading the data to an IBM compatible personal computer. The software shall also be capable of generating reports and annotated graphs from the data. Acceptable readout and data loggers include Geokon Model GK-403 (Portable Readout Unit and SPLIT Data Formatting Software), Slope Indicator Part Numbers 52620900 AND 52620920 (VS Datamate and Datamate Manager Software), or an approved equal.

The data recorder shall have waterproof seals incorporated into its face place, switches and input connectors. It shall have a backup power source or battery which will keep data secure if the main battery should become discharged. It shall have the capacity of manually recording a minimum of 250 readings, and of automatically recording data at any interval specified and entering a low power mode between the readings taken. It shall have the electronic transfer capability of linking itself and a personal computer for data transfer. Include an interface cable. It shall be able to do the following: display battery charge, display internal temperature and humidity, set date and time, display all data in its memory, and adjust viewing angle of display. It shall have a backlit display. It shall be able to display pore water pressure readings in standard English and metric units of pressure, and temperature readings in degrees Celsius and degrees Fahrenheit.

The data recorder shall also meet the following specifications:

Temperature Range:	Fully operable from -4 ºF to 120 ºF
Excitation Range:	450 - 6000 Hz
Resolution:	0.01% Full Scale
Weight :	~ 12 lb

Five Terminal Boxes: Acceptable terminal boxes shall be Geokon Terminal Box Model 4999, Slope Indicator Terminal Box 57711600, or an approved equal. The terminal box enclosures shall be constructed of baked enamel coated steel or fiberglass, and shall be waterproof. Each box shall handle a minimum of six 4-conductor sensors. Cable entries on each box shall have watertight cable glands fixed in place with strain reliefs. The boxes shall be modified as necessary to permit connection to the data recorder. Protect each terminal box from lightening damage by installing at the factory surge arrestors, and with a ground rod and grounding cable.

Furnish the engineer for approval, a minimum of 14 days prior to delivery of the vibrating wire piezometer instrumentation system to the site, the following:

1. Name and phone number of manufacturer's designated technical assistance representative,
2. Manufacturer's certifications for all components of the system,
3. Factory calibration certifications for all components of the system,
4. Factory quality assurance checklist,
5. Factory pre-shipment inspection checklist,
6. Factory warranties for all components of the system,
7. Shipping documents and shipping schedule,
8. Unique instrument identification numbers for all components, and
9. Instruction manuals for each component of the system supplied by the manufacturer.
10. The location of the readout boxes for the individual areas.

Include a comprehensive instruction manual with the vibrating wire piezometer instrumentation system. It shall contain the following: (1) *theory of operation*, i.e. the basic measuring principle of the instrument with appropriate illustrations, limitations of the instrument, factors which may affect measurement uncertainty, and a specification sheet; (2) *calibration procedures*, i.e. step-by-step acceptance test procedures to ensure correct functioning when the instrument is first received, procedures for performing calibration checks, and procedures for regular calibration of the readout and data logger; (3) *installation procedures*, i.e. step-by-step procedure for installation, with illustrations of the system and its components, showing correct juxtaposition when installed, and statement of all factors that should be recorded during installation for later use during data evaluation; (4) *maintenance procedures and trouble-shooting guide* with names, addresses, and telephone numbers of instrument service representatives; (5) *data collection procedures*, i.e. cautions pertaining to personnel and equipment, procedure for

obtaining initial reading, procedure for obtaining readings subsequent to initial readings, listing of equipment and tools required during instrument reading, a field data sheet, and a sample completed field data sheet; and (6) *data processing, presentation, and interpretation procedures*, i.e. data calculation sheet, step-by-step calculation procedure, instruction manual(s) for software supplied by the manufacturer, sample data calculations, alternative methods of plotting the data, sample data plots, and notes on data interpretation.

There shall be a product warranty on all parts of the vibrating wire piezometer instrumentation system of a minimum of one year from the date of delivery to the department against defects in materials and workmanship.

All components of the Vibrating Wire Piezometer Instrumentation System shall be made by the same manufacturer. Each component of the Vibrating Wire Piezometer Instrumentation System shall bear markings to clearly identify it with the manufacturer's certifications previously furnished to the engineer. The term *approved equal* shall be understood to indicate that the *equal* product shall meet all of the specifications, and shall be the same or superior to the products named previously in the specifications in function, performance, accuracy, tolerances, and general configuration. The engineer shall make the final determination if the approved equal is acceptable. Components which do not meet the requirements of the specifications shall be unacceptable and will be rejected by the engineer. The engineer reserves the right to prohibit delivery of any component until certifications provided by the manufacturer, and supplied by the contractor, indicates full compliance with the specifications.

Technical Support: Make available an on-site technical assistance representative from the manufacturer which supplies the Vibrating Wire Piezometer Instrumentation System to instruct the contractor on how to install the first vibrating wire piezometer installed on the project. Also make available on-site the technical assistance representative to assist in the final connections of the vibrating wire piezometer cables to the terminal boxes during construction operations and to assist in initial calibration and reading of the instrumentation.

C (Vacant)

D Measurement

The department will measure Vibrating Wire Piezometer Instrumentation System as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.003	Vibrating Wire Piezometer Instrumentation System	Each

Payment is full compensation for furnishing and delivering all components of the Vibrating Wire Piezometer Instrumentation System for the project, and for providing technical support at the project site.

10.16 Settlement Gauges, Item SPV.0060.004.

A Description
This special provision describes furnishing and installing settlement gauges and extensions in accordance to the details shown in the plans and as herein provided.

B (Vacant)

C Construction
Install the settlement gauges at field locations as determined by the engineer and under the supervision of the department's Foundation and Pavement Unit and at the following locations:

Feature	Description of Location	Station	Offset	Estimated Tip Elev.
Embankment	--	1198+50 IHA	20' LT of RL	584'

The bottom of the plate shall be level and riser pipe shall be vertical. Mortar may be used to level the 2-foot x 2-foot x 0.5-inch thick plate. The elevation of the plate shall be determined by the engineer and the lengths of any added riser pipe(s) shall be accurately measured and recorded.

Embankment and retaining wall material in the vicinity of the riser pipe shall be compacted to specification requirements, taking precautions to keep alignment of the riser and the cover pipes vertical at all times.

Take all necessary precautions to ensure that the settlement gauges are not damaged, displaced, or misaligned. If a gauge is damaged, it shall immediately be repaired or replaced by the contractor at this/her own expense. A complete set of readings shall be obtained from all nearby instrumentation if any gauges are repaired or replaced. Engineer will determine which instrumentation requires a complete set of readings. Contractor to protect and maintain all settlement gauges installed as part of this contract.

D Measurement
The department will measure Settlement Gauges as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.004	Settlement Gauges	Each

Payment is full compensation for furnishing and placing all materials including extensions; and for excavation.

10.17 Strip Drains, Item SPV.0090.012; Pre-bored Strip Drains, Item SPV.0090.013.

A Description

This special provision describes furnishing and installing prefabricated strip drains after topsoil has been removed and ground has been graded for positive drainage. Perform all work according to the plans and as provided herein.

B Materials

The strip drains shall be prefabricated and consist of a plastic or polyethylene core wrapped in a filter geotextile fabric. They shall be ALIDRAIN, AMER-DRAIN Type 407, MEBRA-DRAIN or an approved equal. The core shall be fabricated with suitable drainage channels.

Every component of the strip drains shall be insect, rodent, mildew, and rot resistant.

Furnish the strip drains in a wrapping which will protect them from abrasion due to shipping and hauling. The strip drains are to be kept dry until installed.

Clearly mark the strip drain rolls showing the type of vertical drain.

Furnish the engineer for approval manufacturer's certifications and strip drain samples a minimum of 14 days prior to delivery of the strip drains to the site. Only one type of strip drain, i.e. strip drain made by the same manufacturer and of the same dimensions and in-plane flow rate, is to be used for the entire project. The delivered strip drains shall bear markings to clearly identify it with the manufacturer's certifications previously furnished to the engineer.

C Construction

Install strip drains with approved equipment of a type which will cause a minimum disturbance of the subsoil during the installation operation. Install the strip drain using a mandrel or sleeve which completely encloses the strip drain, thereby protecting it from tears, cuts, and abrasions during installation. The mandrel or sleeve shall be of minimal cross-sectional area.

Submit details of the sequence and method of strip drain installation to the engineer by the contractor a minimum of 14 days prior to the installation of the vertical drains for the engineer's approval. Approval by the engineer will not relieve the contractor of his responsibility to install the strip drains in accordance to these specifications.

Prior to the installation of strip drains within the designated areas, demonstrate that his equipment, installation method, and materials produce a satisfactory installation in accordance to these specifications. For this purpose the contractor shall be required to install trial strip drains at locations designated by the engineer. Payment will be at the unit price per linear foot for the strip drains. Payments will not be made for installing unsatisfactory trial strip drains.

Approval by the engineer of the method and equipment used to install the trial drains shall not constitute acceptance of the method for the remainder of the project. If at any time the engineer considers that the method of installation does not produce a satisfactory drain, the contractor shall alter his method or equipment as necessary to comply with these specifications.

Strip drains shall be located, numbered, and staked out by the contractor. Do not vary the locations of drains by more than 6 inches from the locations indicated in the plan documents or as directed by the engineer.

Force vertically the mandrel with the strip drain inside into the ground to the depth shown on the contract documents. Retract the mandrel leaving the strip drain in place to function as a vertical drain. Cut the strip drain neatly at its upper end with a 12 inch length of drain material extending above the drainage blanket.

Re-level the surface of the granular sub-base course disturbed by strip drain installation equipment. Regrading will not be allowed. Repair any excessive rutting or deformations in the drainage blanket as directed by the engineer at no additional cost to the department.

Splices or connections in the strip drain material will not be allowed.

Carefully check the equipment for plumbness prior to advancing each strip drain and must not deviate more than 1 inch per foot from the vertical.

When obstructions are encountered below the working surface which in the opinion of the engineer cannot be penetrated using normal and accepted procedures, complete the drain from the elevation of the obstruction to the working surface. At the direction of the engineer, install a new drain within 18 inches from the obstructed drain. Pay contractor for all obstructed drains at the contract unit price unless the drain is improperly installed.

Observe precautions necessary for protection of instrumentation devices. After instrumentation devices have been installed, replace at his cost any equipment that is damaged or become unreliable due to his construction operations.

Strip drains that are out of their proper location by more than 6 inches, strip drains that are damaged during construction or strip drains that are improperly installed shall be rejected by the engineer and no compensation will be allowed for any materials furnished or for any work performed on such drains.

Supply the engineer with a suitable means of making a linear determination of the quantity of strip drain material used at each strip drain location. During installation of the strip drain, provide suitable means of determining the depth of the strip drain.

D Measurement

The department will measure Strip Drains and Pre-bored Strip Drains by the linear foot for the full length of strip drain, acceptably completed. The contractor will not be paid for any more than an 18 inch length of strip drain extending above the drainage blanket.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.012	Strip Drains	LF
SPV.0090.013	Pre-bored Strip Drains	LF

Payment is full compensation for the cost of furnishing the strip drain material, pre-drilling, installation, altering of the equipment and methods of installation in order to produce the required end result in accordance to the plans and specifications. No payment will be made for unacceptable strip drains or for any delays or expense incurred through changes necessitated by improper or unacceptable material or equipment.

10.18 Geotechnical Instrumentation, Item SPV.0105.004.

A Description

A.1 General

This special provision describes installing geotechnical instrumentation and collecting data for the project for the purpose of monitoring ground movement in the vicinity of structures and nearby adjacent property and movement during construction of the retaining wall and embankments. The instrumentation program specified herein and shown on the plans is not intended to be used to ensure the safety of the work.

Install the required instrumentation and collecting the required ground monitoring data as specified herein. The instrumentation program required by this article does not relieve the contractor of responsibility for providing additional instrumentation and monitoring if, in the contractor's opinion, such additional instrumentation and monitoring are necessary to accomplish the work.

Instrumentation installed under this contract shall remain fully operational until after final pavement is constructed and after all appreciable settlement ceases as determined by the engineer. Instrumentation identified as existing instrumentation installed under previous contract will be maintained, protected, read, and repaired as if it were installed under this contract.

This article covers the work necessary to furnish and install geotechnical instrumentation, maintaining installed instruments, taking initial and subsequent instrument readings, and removal and abandonment, if necessary, of the instruments after construction.

A.2 Submittals

Submit the following specific information for information only, at least 30 days prior to the start of instrument installation, except submit copies of DNR forms as soon as possible after instruments are installed or abandoned:

1. Submit qualifications and experience of instrumentation specialists and personnel.
2. Instrumentation shop drawings detailing locations, depths based on general information shown on the plans, type, details, and other pertinent information showing the installation details for each type of instrumentation required.
3. Drawing that indicates the locations of control points and benchmarks associated with surveys for monitoring geotechnical instrumentation.
4. Description of methods for installing and protecting all instruments.
5. Schedule of instrument installation related to significant activities or milestones in the overall project.
6. Following installation of the instruments and prior to the start of construction, submit as-built shop drawings showing the exact installed location, the instrument identification number, the instrument type, the installation date and time, the heading station or portal on the installation date, when applicable, and the anchor or tip elevation and instrument length, when applicable, and installed locations of control points and benchmarks associated with surveys for monitoring geotechnical instrumentation. Include details of installed instruments, accessories, and protective measures including all dimensions and materials used.
7. Manufacturer's literature describing installation, operation, and maintenance procedures for all instruments, materials, readout units, and accessories.
8. Drilling and installation logs for instrumentation installations prepared by the instrumentation specialist.
9. Submit for each instrument to be installed, as applicable, a certificate issued by the instrument's manufacturer stating that the manufacturer has inspected and tested each instrument before it leaves the factory to see that the instrument is working correctly and has no defects or missing parts.
10. Submit permits and consents for drilling holes from ground surface and conducting monitoring activities.
11. Plans for geotechnical instrumentation to be installed at contractor’s option.
12. Copies of completed DNR abandonment forms for vibrating wire piezometers.

A.3 Definitions and Locations

Open Ground: Ground without any above- or below-grade facilities, paved or unpaved roads, and utilities within a 25-foot horizontal radius.

Piezometer (PZ): A vibrating wire piezometer constructed in a borehole.

Feature	Description of Location	Station	Offset	Estimated Tip Elev.
B-05-682	Behind abutment	32+10 BP2	2’ LT of RL	552’ and 540’
B-05-682	Behind abutment	34+60 BP2	2’ LT of RL	547’ and 537’
B-05-673	Behind abutment	1195+00 SMC	15’ LT of RL	556’
Embankment	--	1198+00 SMC	10’ LT of RL	566’ and 553’
Embankment	--	1201+00 SMC	15’ LT of RL	552’
Embankment	--	1195+00 VEC	10’ LT of RL	556’
Embankment	--	1198+00 VEC	15’ LT of RL	566’ and 553’
Embankment	--	1201+00 VEC	15’ LT of RL	552’

Existing Piezometer (ExPZ): A vibrating wire piezometer constructed in a borehole during a previous contract, to be maintained with readings taken during this contract.

Feature	Description of Location	Station	Offset	Estimated Tip Elev.
R-05-84/257	Top of R-05-84	1167+00 IHA	30’ right of RL	570’
R-05-84/257	Top of R-05-84	1170+00 IHA	25’ right of RL	572’
R-05-84/257	Top of embankment (behind abutment)	1172+75 IHA	30’ right of RL	565 feet
Embankment	--	1198+50 IHA	20’ LT of RL	562’
Embankment	--	1195+60 NMC	30’ left of RL	564’
Embankment	--	1198+00 NMC	15’ right of RL	576’
Embankment	--	1202+00 NMC	25’ left of RL	570’
B-05-675	South Abutment	1184+65 VEB	30’ right of RL	556’
B-05-675	North Abutment	1185+88 NMC	30’ right of RL	556’
Embankment	--	1182+50 VEC	35’ right of RL	555’
Embankment	--	1182+50 VEC	35’ left of RL	555’
Embankment	--	1184+00 VEC	35’ left of RL	555’
Embankment	--	1184+00 VEC	35’ right of RL	555’

Readout Post (ROP): Posts with the readout box, positioned with agreement between the contractor and engineer.

Settlement Gauge (SG): Settlement gauges constructed at the following locations during a previous contract, to be maintained with readings taken during this contract:

Feature	Description of Location	Station	Offset	Estimated Tip Elev.
B-05-682	Behind abutment	32+10 BP2	5’ LT of RL	Top of Drainage Blanket
B-05-682	Behind abutment	34+60 BP2	5’ LT of RL	Top of Drainage Blanket
B-05-673	Behind abutment	1195+00 SMC	15’ LT of RL	607’
Embankment	--	1198+00 SMC	10’ LT of RL	604’
Embankment	--	1201+00 SMC	15’ LT of RL	600’
Embankment	--	1195+00 VEC	10’ LT of RL	584’
Embankment	--	1198+00 VEC	15’ LT of RL	595’
Embankment	--	1201+00 VEC	15’ LT of RL	594’
Embankment	--	1204+00 VEC	30’ LT of RL	580 feet
Embankment	--	1207+00 VEC	15’ LT of RL	594’
Embankment	--	1221+50 SMC	65’ LT of RL	580 feet

Existing Settlement Gauge (ExSG): Settlement gauges constructed at the following locations during a previous contract, to be maintained with readings taken during this contract:

Feature	Description of Location	Station	Offset	Estimated Tip Elev.
R-05-84/257	Top of R-05-84	1167+00 IHA	10’ right of RL	594’
R-05-84/257	Top of R-05-84	1170+00 IHA	10’ right of RL	594’
R-05-84/257	Top of embankment (behind abutment)	1172+75 IHA	25’ right of RL	590
R-05-84/257	Toe of R-05-257 (upper leg) and Top of R-05-257 (lower leg)	1173+00 IHA	50’ right of RL	590
Embankment	--	1198+50 IHA	20’ LT of RL	584’
Embankment	Top of embankment (behind abutment)	1176+50 IHB	10’ right of RL	580
R-05-256	Top of wall R-05-256	1184+00 NIH	10’ right of RL	582
R-05-256	Top of wall R-05-256 (behind abutment)	1186+90 NIH	5’ right of RL	582
Embankment	--	1195+60 NMC	10’ left of RL	588’
Embankment	--	1198+00 NMC	10’ right of RL	588’
Embankment	--	1202+00 NMC	20’ left of RL	590’
Embankment	--	1182+50 VEC	35’ right of RL	587’
Embankment	--	1184+00 VEC	22’ right of RL	587’

Slope Inclinometers (SI): The department will install slope inclinometers at the following locations. Do not damage slope inclinometers. Contractor at his own expense will replace any damaged slope inclinometers. A complete set of readings shall be obtained from all nearby inclinometers if any gauges are repaired or replaced. Engineer will determine which instrumentation require a complete set of readings.

Feature	Description of Location	Station	Offset	Estimated Tip Elev.
R-05-259	--	32+20 BP2	2’ LT of RL	524’
R-05-260	--	34+50 BP2	2’ LT of RL	518’
Embankment	--	1198+50 IHA	75’ LT of RL	584’
Embankment	--	1194+50 SMC	10’ LT of RL	532’
Embankment	--	1194+50 VEC	10’ LT of RL	532’
Embankment	--	1198+00 VEC	100’ LT of RL	527’
Embankment	--	1201+00 VEC	100’ LT of RL	524’

Existing Slope Inclinometers (ExSI): Previously installed slope inclinometers exist at the following locations. Do not damage slope inclinometers. Contractor at his own expense will replace any damaged slope inclinometers. A complete set of readings shall be obtained from all nearby inclinometers if any gauges are repaired or replaced. Engineer will determine which instrumentation require a complete set of readings.

Feature	Description of Location	Station	Offset	Estimated Tip Elev.
R-05-84/257	Toe of R-05-84	1167+00 IHA	15’ left of RL	544 feet
R-05-84/257	Toe of R-05-81	1167+00 IHA	110’ right of RL	544 feet
R-05-84/257	Top of slope	1170+00 IHA	85’ right of RL	537 feet
Embankment	--	1195+10 NMC	100’ right of RL	530’
Embankment	--	1195+60 NMC	60’ left of RL	530 feet
Embankment	--	1195+60 NMC	210’ right of RL	530 feet
Embankment	--	1198+00 NMC	230’ right of RL	530’
Embankment	--	1200+50 NMC	225’ right of RL	530 feet
Embankment	--	1201+75 NMC	210’ right of RL	530 feet
Embankment	--	1203+25 NMC	75’ right of RL	530 feet
Embankment	--	1203+50 NMC	75’ left of RL	530 feet
Embankment	--	1204+00 NMC	10’ left of RL	530’
B-05-675	South Abutment	1184+75 VEB	10’ right of RL	538’
Embankment	--	1184+00 VEC	38’ left of RL	534’

A.4 Quality Assurance

A.4.1 General

Notify the engineer at least 24 hours prior to all instrumentation installation operations so that the engineer may monitor the installation work.

Each instrument specified herein shall be the product of an acceptable manufacturer currently engaged in manufacturing geotechnical instrumentation hardware of the specified types.

A.4.2 Personnel Qualifications
Qualified technicians with a minimum of 2 years experience in the installation of geotechnical instrumentation similar to those specified herein.

Instrumentation Specialist: A professional civil or geotechnical engineer or engineering geologist, with a minimum of 5 years experience in the installation of instrumentation specified herein, shall prepare instrumentation shop drawings and supervise and direct technicians and be responsible for instrument installation required. The instrumentation specialist shall be physically present at the installation sites to supervise the installations.

A.4.3 Control Points
Surveys for monitoring geotechnical instrumentation shall be referenced to the same control points and benchmarks established for setting out the work. Control points shall be tied to benchmarks and other monuments outside of the zone of ground movements that might result from underground excavations.

A.4.4 Tolerances
SSMs, (SS) and PZs shall be installed within 12 inches of the horizontal locations indicated in this special provision or approved shop drawings.

Should actual field conditions prohibit installation at the locations and elevations indicated on the plans, prior acceptance shall be obtained from the engineer for new instrument locations and elevations.

A.4.5 Project Conditions
Obtain necessary permits for the installation of monitoring systems.

Provide the engineer and the department access to the instruments at all times.

All PZs and Ex PZs shall be protected from vandalism or other accidental damage.

B Materials
B.1 Protection
Provide a protection cover for readout post.

B.2 Filter Pack
Filter pack shall be clean natural silica sand; graded such that all of the material passes the No. 4 sieve and is retained on the No. 30 sieve.

B.3 Filter Pack Seal
Filter pack seal shall be clean natural silica sand; graded such that all of the material passes the No. 10 sieve and is retained on the No. 40 sieve.

B.4 Bentonite Seal
Bentonite pellets used to form bentonite seals shall be 3/8-inch diameter compressed pellets made from high swelling montmorillonite.

B.5 Grout
Grout mixes for each instrument type are specified herein.

B.6 Piezometers (PZ)
The vibrating wire piezometer cable will run to the cable box in a trench backfilled with granular backfill.

C Construction
C.1 General
Instrumentation shall be installed at the locations indicated on this special provision or approved shop drawings, and as approved by the engineer. The piezometer shall be installed after wick drain and drainage blanket construction (by others) excavation of the retaining wall is completed. All instrumentation shall be installed under the direct supervision of the contractor's instrumentation specialist. Instrumentation identified as existing instrumentation installed under previous contract will be maintained, protected, read, and repaired as if it were installed under this contract.

Locate conduits and underground utilities in all areas where borings are to be drilled and instruments installed. Instrument locations shall be modified, as approved by the engineer, to avoid interference with the existing conduits and utilities. Repair damage to existing utilities resulting from instrument installations at no additional cost to the department.

Geotechnical instrumentation shall be installed and baseline surveys or initial readings completed before commencing any filling work for the retaining wall and embankment. A qualified instrumentation specialist shall install the instrumentation as shown on the project plans and as specified herein. The instrumentation specialist shall have documented experience as set forth in the subsection, Quality Assurance.

An as-installed position survey shall be conducted to determine the horizontal and vertical positions of all instruments in accordance to the requirements herein. Furnish the engineer with a copy of the results within 3-days of field survey data acquisition.

C.2 Review of Instrumentation Plan
The instrumentation plan specified herein and shown on the plans may be modified by the engineer prior to installation, to suit the contractor's means and methods of construction. Prior to ordering materials or installation of instruments, confer with the engineer as to the suitability of the planned instruments and locations, regarding proximity to excavations and compatibility with the means and methods of excavation, ground support and groundwater control.

Replace, at no cost to the department, instrumentation in place that becomes inaccessible or unreadable as a result of the contractor's means and methods of construction or changes in the contractor's means and methods of construction that could have been anticipated by the contractor prior to installation. The locations of replacement instruments shall be jointly determined by the engineer and contractor.

C.3 Installation

Complete installation and testing of each instrument located outside of excavations a minimum of 1 week prior to retaining wall and embankment construction within 100 feet of the instrument.

The anticipated general locations of instrumentation are shown in this special provision. Check instruments to be installed in borings for interference with utilities and subsurface facilities. Mark locations of all instruments in the field prior to installation acceptance of the location obtained from the engineer. Confer with the engineer in the event that conflicts with utilities occur, and changes to the planned locations become necessary.

All instruments shall be clearly marked, permanently labeled, and protected to avoid being obstructed or otherwise damaged by construction operations or the general public. Protective housing and box or vault covers shall be marked.

After installation of each instrument, survey the as-built location to define the vertical and lateral positions of the exposed parts.

C.4 Protection and Maintenance

Flag and protect all locations. Exercise care during construction so as to avoid damage to instrumentation. Repair or replace instrumentation that is damaged as a result of the contractor's operation at his expense. The engineer will determine whether repair or replacement is required. Complete the repair or replacement as soon as practical after notification by the engineer as to whether a repair or replacement is required. A complete set of readings shall be obtained from all nearby instrumentation if any instrumentation is repaired or replaced. Engineer will determine which instrumentation requires complete set of readings. Instrumentation identified as existing instrumentation installed under previous contract will be maintained, protected, read, and repaired as if it were installed under this contract.

Maintain exposed parts of installed instruments as necessary to ensure their availability for use for the duration of the work. The engineer will perform maintenance and calibration of readout devices.

C.5 Soil Drilling and Sampling

Hollow stem auger methods may be used to provide a casing for temporary soil support. Boreholes shall be oversized at the ground surface as necessary to accommodate installation of protective covers.

Arrange ports in the drilling bit so that there is no jetting action of the drilling fluid ahead of the bit. Use the minimum amount of fluid necessary to carry away the cuttings.

Complete soil sampling at intervals of 5.0 feet or less using standard penetration tests that are conducted in accordance to ASTM D 1586.

Store representative sample portions not retained for analytical laboratory testing in glass jars approximately 5 inches high and 1-3/4 inches in inside diameter at the mouth. Provide jars with metal screw caps containing a rubber or waxed paper gasket that forms an airtight seal when closed. Provide jars with labels large enough to identify the jar with the project number and name, boring number, sample number, depths at top and bottom of sample, blow count and recovery. Perform the laboratory testing on retained samples as deemed necessary.

Observe all soil drilling and sampling and prepare a log of the boring.

Upon completion of drilling, flush the boring with clear water prior to instrument installation.

C.6 Potholing

Potholing is defined as use of vacuum excavating or low pressure water jetting and vacuum excavating to advance holes with low risk of utility damage to confirm utility locations or to advance holes for grout pipes or geotechnical instrumentation to depths below utilities of concern. Perform potholing to at least one foot below anticipated utility bottom levels prior to installing piezometers.

C.7 Tremie Grouting

Perform tremie grouting by pumping grout through a tremie pipe positioned 3 to 5 feet above the bottom of the space to be grouted. Keep the bottom end of the tremie pipe submerged in grout as the grout level is brought up to the ground surface. The density of the grout flowing from the space at the ground surface shall be the same as the density of the grout being placed. Allow the grout to set for a minimum 12-hour period before additional materials are placed on top of the grout. Top off any settling of grout.

C.8 Installing vibrating wire piezometer

Drill, sample and log borings in soil drilled for the purpose of installing vibrating wire piezometers, settlement systems and observation wells as specified here in subsection, Soil Drilling and Sampling. Drill borings using 4-inch minimum inside diameter casing and water. Drill the borings so as not to damage adjacent utilities. Drill borings for double piezometers using 6-inch minimum inside diameter casing for a minimum of the full depth of the upper vibrating wire piezometer. If use of drilling fluid is necessary to stabilize the borehole, use a biodegradable organic polymeric drilling fluid. Perform a standard penetration test at 5.0-foot depth intervals.

Install the vibrating wire piezometer tip, filter pack, filter pack seal, and annular space seal as determined by contractor's engineer or approved alternatives. The engineer will determine the depth of the sensing zone for each vibrating wire piezometer installed based upon observations of retained soil samples. Withdraw the drill casing in small increments as the backfill materials are placed, so that collapse of the borehole does not occur. Do not rotate casing during withdrawal.

Place filter pack material slowly so that bridging does not occur in the boring and to prevent the instrument from being lifted as the casing is withdrawn. Use a measuring rod or similar device to measure the height of the filter pack to ensure that the filter pack is installed over the proper depth interval. Carefully raise and lower the measuring rod while the filter pack is installed, to prevent bridging and to tamp the filter pack in place.

Place a filter pack seal above the filter pack. Place the filter pack seal in a similar manner as for filter pack material. Place a bentonite seal above the filter pack seal.

Place the annular space seal by tremie grouting. Place the grout in such a manner as to not disturb the integrity of the filter pack and seal.

For double piezometers, allow the annular space seal between the lower and upper sensing zones to set a minimum of 12 hours before the upper filter pack is placed. Alternatively, form the annular space seal by a mixture of coarse sand and grout placed in small lifts. Tamper the sand during placement. Place grout by tremie method. Take care to provide a watertight seal between the upper and lower sensing zones, and to avoid contaminating the upper sensing zone with grout.

Grout for the annular space seal for piezometers shall consist of a bentonite to cement ratio of 0.15/1 by weight, with sufficient water to allow pumping. Mix bentonite and water first.

C.9 Schedule of Instruments Installed

For the retaining wall, install instruments of the number and type, at the location and to the depths indicated on this special provision.

C.10 Initial Readings

Record initial readings for each instrument before construction of the retaining wall and embankment. Notify the engineer when initial readings will be made, and the engineer may elect to participate or observe in taking initial readings.

Record initial vibrating wire piezometer readings a minimum of 48 hours after completing installation and testing of each piezometer. Two sets of vibrating wire piezometer readings, at least 4 hours apart will be taken. If the variation in vibrating wire piezometer readings exceeds 0.1 foot, the two sets of readings will be repeated. The arithmetic average of the two sets of vibrating wire piezometer readings that do not vary by more than 0.1 foot will be used as the initial baseline vibrating wire piezometer readings.

C.11 Monitoring Instruments

Obtain and record data readings at regular intervals as specified herein. Submit any newly obtained recorded data to the engineer within 24 hours of obtaining new readings.

After initial readings, obtain and record subsequent regular data readings at each structure or embankment area on regular intervals based on the following criteria:

1. Prior to retaining wall and embankment construction:
   Record a minimum of one reading per week per instrument.

2. During retaining wall and embankment construction:
   Record one reading per instrument for every 5 feet of vertical retaining wall construction or at least every two days, whichever is the shorter interval.

3. After retaining wall and embankment construction is completed:
   Record a minimum of one reading per instrument every two days.

As a minimum, data should be provided within 24 hours of collection to the engineer for evaluation. Immediately contact engineer if values obtained indicate changes that are abrupt, have increasing rate of change, are indicative of deteriorating conditions, or other cause for concern.

Based on evaluation of the data collected, the engineer will determine if continued instrumentation readings are necessary. If additional readings are necessary, the readings will be obtained by the engineer.

C.12 Abandonment of Instrumentation

At the completion of the job or as directed by the engineer, abandon or remove instrumentation. Grout the full depth of instrument casings and pipes by tremie method or by pressure injection from the ground surface. Grout shall consist of cement and water, with the minimum amount of water necessary to allow pumping.

C.13 Protection

Protect instrumentation and terminal boxes from damage as a result of construction activity. Replace any instrumentation and terminal boxes at the contractor costs. Extend existing settlement gauges as part of this work.

The department will provide caps for contractor installation to protect active instrumentation.

Contractor shall protect all existing, active geotechnical instrumentation installed during adjacent project. Any changes to existing instrumentation shall be repaired and resume fully operational at the contractor’s expense.

D Measurement
The department will measure Geotechnical Instrumentation as a complete single lump sum unit of work, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.004	Geotechnical Instrumentation	LS

Payment is full compensation for providing submittals, furnishing materials, installation, testing, protection, maintenance, replacement or repair of damaged instruments or installations, obtaining data readings, abandonment.

10.19 Geogrid Reinforcement, Item SPV.0180.009.

A Description
This special provision describes furnishing and installing geogrids for subgrade stabilization, base reinforcement, or pavement structure applications in accordance to the plans, standard spec 645, and as hereinafter provided.

B Materials
Provide geogrid that consists of either single or joined multiple layers of a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The polymer shall consist of polyester, polypropylene, polyamide, or polyetheylene. The grid shall maintain dimensional stability during handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant. Minimum geogrid width shall be 6.0 feet.

Provide geogrid that complies with the following physical properties:

Test	**Method**	**Value** [(1)]
Tensile Strength at 5% Strain, Both Principal Directions (lb/ft)	ASTM D 4595 [(2)]	450 min.
Flexural Rigidity Both Principal Directions (mg-cm)	ASTM D 1388 [(3)]	150,000 min
Aperture Area (in^2)	Inside Measurement [(4)]	5.0 max.
Aperture Dimension (in)	Inside Measurement [(4)]	0.5 min

[(1)] All numerical values represent minimum/maximum average roll values, i.e. the average minimum test results on any roll in a lot should meet or exceed the minimum specified value.
[(2)] The Tensile Strength T of the joined multi-layered geogrid shall be computed using the following equation:

Where $T = n(f)t$

n = the number of individual layers in the joined multi-layered geogrid,
t = the tensile strength of a single layer of geogrid as determined using testing method ASTM D4595, and
f = reduction factor based on the number of layers comprising the multi-layered system and determined by the equation f=1.00 - [0.04(n - 1)].

(3) Values shall be determined by Option "A" (Cantilever Test) of testing method ASTM D1388 using test specimens that are 36 inches ±0.04 inch long. Test specimen widths for differing geogrids shall be variable and equal to 1 element plus 1/2 the aperture width on both sides of that element. An element is defined as the minimum number of parallel strands that form a distinguishable repeating pattern.
(4) Aperture Area and Aperture Dimension for joined multi-layer geogrids shall be determined based on measurement of a single layer of the geogrid.

Protect the geogrid from ultraviolet radiation and from damage due to shipping and handling. Keep the geogrid dry until it is installed. The geogrid rolls shall be clearly marked to identify the material contained.

Deliver a sample of the geogrid material to the engineer at least 10 days prior to its incorporation into the work. At the same time, furnish a manufacturer's Certified Report of Test or Analysis that verifies that the geogrid delivered for use on the work meets the above requirements. Samples of geogrid for test purposes will be obtained from the job site for each 10,000 square yards or portions thereof used on the contract.

C Construction

Prior to placement of the geogrid, bring the indicated placement surface to the required lines, grades, and dimensions as shown on the plans. Smooth and shape the surface to eliminate any rocks, clods, roots, or other items that may cause damage to the geogrid during placement or covering.

Place the geogrid on the prepared surface at the locations and to the limits as shown on the plans. After placement, pull the geogrid taut and secure it using pins, clips, staples, or other devices to prevent movement or displacement. Place parallel strips of geogrid with a minimum overlap of 6 inches. Lap butt joints between roll ends a minimum of 12 inches. Fasten all lapped sections together by using ties, straps, clips, or other devices to develop a secure joint that meets the approval of the engineer. No vehicles or construction equipment shall be permitted to operate directly on the geogrid.

Cover small rips, tears, or defects in the geogrid with an additional section of geogrid; secure the additional geogrid in place so that it overlaps the damaged area by at least 3 feet in all directions. Remove and replace geogrid sections with large rips, tears, defects, or other damage at the direction of the engineer. All costs to repair or replace damaged or defective geogrid shall be the responsibility of the contractor.

After placement, cover the geogrid to the indicated depth with the type of material required on the plans or in the special provisions. Placing, spreading, and compacting of this material shall comply with the applicable sections of the standard specifications or special provisions except that the initial lift of material placed on the geogrid must be at least 4 inches. Place, spread, and compact the required backfill material so that the geogrid is not displaced or damaged. The engineer may require changes in equipment and/or operations to prevent such damage or displacement.

D Measurement

The department will measure Geogrid Reinforcement by the square yard of surface area upon which the geogrid has been placed, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.009	Geogrid Reinforcement	SY

Payment is full compensation for furnishing, transporting, and installing the geogrid; furnishing and installing all devices and materials necessary to join or secure the geogrid in place.

11. Bases, Subbases and Pavements.

11.1 QMP Base Aggregate.

A Description

A.1 General

(1) This special provision describes contractor quality control (QC) sampling and testing for base aggregates, documenting those test results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

(2) Conform to standard spec 301, standard spec 305, and standard spec 310 as modified here in this special provision. Apply this special provision to material placed under all of the Base Aggregate Dense and Base Aggregate Open Graded bid items, except do not apply this special provision to material classified as reclaimed asphaltic pavement placed under the Base Aggregate Dense bid items.

(3) Do not apply this special provision to material placed under the Aggregate Detours, Salvaged Asphaltic Pavement Base, Breaker Run, Select Crushed, Pit Run, Subbase, or Riprap bid items.

(4) Provide and maintain a quality control program, defined as all activities related to and documentation of the following:
1. Production and placement control and inspection.
2. Material sampling and testing.

(5) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

A.2 Contractor Testing for Small Quantities

(1) The department defines a small quantity, for each individual Base Aggregate bid item, as a plan quantity of 9000 tons or less of material as shown in the schedule of items under that bid item.

(2) The requirements under this special provision apply equally to a small quantity for an individual bid item except as follows:
1. The contractor need not submit a full quality control plan but shall provide an organizational chart to the engineer including names, telephone numbers, and current certifications of all persons involved in the quality control program for material under affected bid items.
2. Divide the aggregate into uniformly sized sublots for testing as follows:

Plan Quantity	Minimum Required Testing
≤ 1500 tons	One test from production, load-out, or placement at the contractor's option[1]
> 1500 tons and ≤ 6000 tons	Two tests of the same type, either from production, load-out, or placement at the contractor's option[1]
> 6000 tons and ≤ 9000 tons	Three placement tests[2] [3]

[1] If using production tests for acceptance, submit test results to the engineer for review prior to incorporating the material into the work. Production test results are valid for a period of 3 years.

[2] For 3-inch material, obtain samples at load-out.

[3] If the actual quantity overruns 9000 tons, create overrun sublots to test at a rate of one additional placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

3. No control charts are required. Submit aggregate load-out and placement test results to the engineer within one business day of obtaining the sample. Assure that all properties are within the limits specified for each test.
4. Department verification testing is optional for quantities of 6000 tons or less.

(3) Material represented by a sublot with any property outside the specification limits is nonconforming. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

B Materials

B.1 Quality Control Plan

(1) Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not place base before the engineer reviews and comments on the plan. Construct the project as that plan provides.

(2) Do not change the quality control plan without the engineer's review. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in each of the contractor's laboratories as changes are adopted. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. A list of source and processing locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Test results for wear, sodium sulfate soundness, freeze/thaw soundness, and plasticity index of all aggregates requiring QC testing. Obtain this information from the region materials unit or from the engineer.
5. Descriptions of stockpiling and hauling methods.
6. Locations of the QC laboratory, retained sample storage, and where control charts and other documentation is posted.
7. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

B.2 Personnel

(1) Have personnel certified under the department's highway technician certification program (HTCP) perform sampling, testing, and documentation as follows:

Required Certification Level:	Sampling or Testing Roles:
Aggregate Technician IPP Aggregate Sampling Technician Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Sampling[1]
Aggregate Technician IPP Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Gradation Testing, Aggregate Fractured Particle Testing, Aggregate Liquid Limit and Plasticity Index Testing

[1] Plant personnel under the direct observation of an aggregate technician certified at level one or higher may operate equipment to obtain samples.

(2) A certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.3 Laboratory

(1) Perform QC testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:

Materials Management Section
3502 Kinsman Blvd.
Madison, WI 53704
Telephone: (608) 246-5388
http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm

B.4 Quality Control Documentation

B.4.1 General

(1) Submit base aggregate placement documentation to the engineer within 10 business days after completing base placement. Ensure that the submittal is complete, neatly organized, and includes applicable project records and control charts.

B.4.2 Records

(1) Document all placement observations, inspection records, and control adjustments daily in a permanent field record. Also include all test results in the project records. Provide test results to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute tabulated results using a method mutually agreeable to the engineer and contractor.

B.4.3 Control Charts

(1) Plot gradation and fracture on the appropriate control chart as soon as test results are available. Format control charts according to CMM 8.30. Include the project number on base placement control charts. Maintain separate control charts for each base aggregate size, source or classification, and type.

(2) Provide control charts to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute charts using a method mutually agreeable to the engineer and contractor. Update control charts daily to include the following:

1. Contractor individual QC tests.
2. Department QV tests.
3. Department IA tests.
4. Four-point running average of the QC tests.

(3) Except as specified under B.8.2.1 for nonconforming QV tests, include only QC tests in the running average. The contractor may plot process control or informational tests on control charts, but do not include these tests, conforming QV tests, or IA tests in the running average.

B.5 Contractor Testing

(1) Test gradation, fracture, liquid limit and plasticity index during placement for each base aggregate size, source or classification, and type.

(2) Test gradation once per 3000 tons of material placed. Determine random sample locations and provide those sample locations to the engineer. Obtain samples after the material has been bladed, mixed, and shaped but before compacting; except collect 3-inch samples from the stockpile at load-out. Do not sample from material used to maintain local traffic or from areas of temporary base that will not have an overlying pavement. On days when placing only material used to maintain local traffic or only temporary base that will not have an overlying pavement, no placement testing is required.

(3) Split each contractor QC sample and identify it according to CMM 8.30. Retain the split for 7 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.

(4) The engineer may require additional sampling and testing to evaluate suspect material or the technician's sampling and testing procedures.

(5) Test fracture for each gradation test until the fracture running average is above the lower warning limit. Subsequently, the contractor may reduce the frequency to one test per 10 gradation tests if the fracture running average remains above the warning limit.

(6) Test the liquid limit and plasticity index for the first gradation test. Subsequently, test the liquid limit and plasticity index a minimum of once per 10 gradation tests.

B.6 Test Methods

B.6.1 Gradation

(1) Test gradation using a washed analysis conforming to the following as modified in CMM 8.60:

Gradation..... AASHTO T 27
Material finer than the No. 200 sieve..... AASHTO T 11

(2) For 3-inch base, if 3 consecutive running average points for the percent passing the No. 200 sieve are 8.5 percent or less, the contractor may use an unwashed analysis. Wash at least one sample out of 10. If a single running average for the percent passing the No. 200 sieve exceeds 8.5 percent, resume washed analyses until 3 consecutive running average points are again 8.5 percent passing or less.

(3) Maintain a separate control chart for each sieve size specified in standard spec 305 or standard spec 310 for each base aggregate size, source or classification, and type. Set control and warning limits based on the standard specification gradation limits as follows:

1. Control limits are at the upper and lower specification limits.
2. There are no upper warning limits for sieves allowing 100 percent passing and no lower control limits for sieves allowing 0 percent passing.
3. Dense graded warning limits, except for the No. 200 sieve, are 2 percent within the upper and lower control limits. Warning limits for the No. 200 sieve are set 0.5 percent within the upper and lower control limits.
4. Open graded warning limits for the 1-inch, 3/8-inch, and No. 4 sieves are 2 percent within the upper and lower control limits. Upper warning limits for the No. 10, No. 40, and No. 200 sieves are 1 percent inside the upper control limit.

B.6.2 Fracture

(1) Test fracture conforming to CMM 8.60. The engineer will waive fractured particle testing on quarried stone.

(2) Maintain a separate fracture control chart for each base aggregate size, source or classification, and type. Set the lower control limit at the contract specification limit, either specified in another special provision or in table 301-2 of standard spec 301.2.4.5. Set the lower warning limit 2 percent above the lower control limit. There are no upper limits.

B.6.3 Liquid Limit and Plasticity

(1) Test the liquid limit and plasticity according to AASHTO T 89 and T 90.

(2) Ensure the material conforms to the limits specified in standard spec table 301-2.

B.7 Corrective Action

B.7.1 General

(1) Consider corrective action when the running average trends toward a warning limit. Take corrective action if an individual test exceeds the contract specification limit. Document all corrective actions both in the project records and on the appropriate control chart.

B.7.2 Placement Corrective Action

(1) Do not blend additional material on the roadbed to correct gradation problems.

(2) Notify the engineer whenever the running average exceeds a warning limit. When 2 consecutive running averages exceed a warning limit, the engineer and contractor will discuss appropriate corrective action. Perform the engineer's recommended corrective action and increase the testing frequency as follows:
   1. For gradation, increase the QC testing frequency to at least one randomly sampled test per 1000 tons placed.
   2. For fracture, increase the QC testing frequency to at least one test per gradation test.

(3) If corrective action improves the property in question such that the running average after 4 additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after 4 additional individual tests is still in the warning band, repeat the steps outlined above starting with engineer notification.

(4) If the running average exceeds a control limit, material starting from the first running average exceeding the control limit and ending at the first subsequent running average inside the control limit is nonconforming and subject to pay reduction.

(5) For individual test results significantly outside the control limits, notify the engineer, stop placing base, and suspend other activities that may affect the area in question. The engineer and contractor will jointly review data, data reduction, and data analysis; evaluate sampling and testing procedures; and perform additional testing as required to determine the extent of potentially unacceptable material. The engineer may direct the contractor to remove and replace that material. Individual test results are significantly outside the control limits if meeting one or more of the following criteria:
   1. A gradation control limit for the No. 200 sieve is exceeded by more than 3.0 percent.
   2. A gradation control limit for any sieve, except the No. 200, is exceeded by more than 5.0 percent.
   3. The fracture control limit is exceeded by more than 10.0 percent.

B.8 Department Testing

B.8.1 General

(1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

B.8.2 Verification Testing

B.8.2.1 General

(1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

(2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:
   1. One non-random test on the first day of placement.
   2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.

(3) The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will collect QV samples after the material has been bladed, mixed, and shaped but before compacting; except, for 3-inch aggregates, the department will collect samples from the stockpile at load-out. The department will split each sample, test half for QV, and retain half.

(4) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.

(5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to the specification, the department will take no further action. If QV test results are nonconforming, add the QV to the QC test results as if it were an additional QC test.

B.8.3 Independent Assurance

(1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.
4. Test equipment calibration checks.
5. Reviewing required worksheets and control charts.
6. Requesting that testing personnel perform additional sampling and testing.

(2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.9.

B.9 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.

(2) Production test results, and results from other process control testing, may be considered when resolving a dispute.

(3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C (Vacant)

D (Vacant)

E Payment

(1) Costs for all sampling, testing, and documentation required under this special provision are incidental to this work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the non-performance of QMP administrative item.

(2) For material represented by a running average exceeding a control limit, the department will reduce pay by 10 percent of the contract price for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.

301-010 (20100709)

11.2 QMP HMA Pavement Nuclear Density.

A Description

Replace standard spec 460.3.3.2 (1) and and standard spec 460.3.3.2 (4) with the following:

(1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 as modified in this special provision.

(2) Provide and maintain a quality control program defined as all activities and documentation of the following:

1. Selection of test sites.
2. Testing.
3. Necessary adjustments in the process.
4. Process control inspection.

(3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures. Obtain the CMM from the department's web site at:

http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

(4) The department's Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department's web site at:

http://www.atwoodsystems.com/mrs

B Materials

B.1 Personnel

(1) Perform HMA pavement density (QC, QV) testing using a HTCP certified nuclear technician I, or a nuclear assistant certified technician (ACT-NUC) working under a certified technician.

(2) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.2 Testing

(1) Conform to ASTM D2950 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter position. Perform each test for 4 minutes of nuclear gauge count time.

B.3 Equipment

B.3.1 General

(1) Furnish nuclear gauges from the department's approved product list at http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm.

(2) Have the gauge calibrated by the manufacturer or an approved calibration service within 12 months of its use on the project. Retain a copy of the manufacturer's calibration certificate with the gauge.

(3) Prior to each construction season, and following any calibration of the gauge, the contractor must perform calibration verification for each gauge using the reference blocks located in the department's central office materials laboratory. To obtain information or schedule a time to perform calibration verification, contact the department's Radiation Safety Officer at:

Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 243-5998

B.3.2 Correlation of Nuclear Gauges

B.3.2.1 Correlation of QC and QV Nuclear Gauges

(1) Select a representative section of the compacted pavement prior to or on the first day of paving for the correlation process. The section does not have to be the same mix design.

(2) Correlate the 2 or more gauges used for density measurement (QC, QV). The QC and QV gauge operators will perform the correlation on 5 test sites jointly located. Record each density measurement of each test site for the QC, QV and back up gauges.

(3) Calculate the average of the difference in density of the 5 test sites between the QC and QV gauges. Locate an additional 5 test sites if the average difference exceeds 1.0 lb/ft^3. Measure and record the density on the 5 additional test sites for each gauge.

(4) Calculate the average of the difference in density of the 10 test sites between the QC and QV gauges. Replace one or both gauges if the average difference of the 10 tests exceeds 1.0 lb/ft^3 and repeat correlation process from B.3.2.1 (2).

(5) Furnish one of the QC gauges passing the allowable correlation tolerances to perform density testing on the project.

B.3.2.2 Correlation Monitoring

(1) After performing the gauge correlation specified in B.3.2.1, establish a project reference site approved by the department. Clearly mark a flat surface of concrete or asphalt or other material that will not be disturbed during the duration of the project. Perform correlation monitoring of the QC, QV, and all back-up gauges at the project reference site.

(2) Conduct an initial 10 density tests with each gauge on the project reference site and calculate the average value for each gauge to establish the gauge's reference value. Use the gauge's reference value as a control to monitor the calibration of the gauge for the duration of the project.

(3) Check each gauge on the project reference site a minimum of one test per day if paving on the project. Calculate the difference between the gauge's daily test result and its reference value. Investigate if a daily test result is not within 1.5 lb/ft^3 of its reference value. Conduct 5 additional tests at the reference site once the cause of deviation is corrected. Calculate and record the average of the 5 additional tests. Remove the gauge from the project if the 5-test average is not within 1.5 lb/ft^3 of its reference value established in B.3.2.2(2).

(4) Maintain the reference site test data for each gauge at an agreed location.

B.4 Quality Control Testing and Documentation

B.4.1 Lot and Sublot Requirements

B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

(1) A lot consists of the tonnage placed each day for each layer and target density specified in standard spec 460.3.3.1. A lot may include partial sublots.

(2) Divide the roadway into sublots. A sublot is 1500 lane feet for each layer and target density.

(3) A sublot may include HMA placed on more than one day of paving. Test sublots at the pre-determined random locations regardless of when the HMA is placed. No additional testing is required for partial sublots at the beginning or end of a day's paving.

(4) If a resulting partial quantity at the end of the project is less than 750 lane feet, include that partial quantity with the last full sublot of the lane. If a resulting partial quantity at the end of the project is 750 lane feet or more, create a separate sublot for that partial quantity.

(5) Randomly select test locations for each sublot as specified in CMM 8.15 prior to paving and provide a copy to the engineer. Locate and mark QC density test sites when performing the tests. Perform density tests prior to opening the roadway to traffic.

(6) Use Table 1 to determine the number of tests required at each station, depending on the width of the lane being tested. When more than one test is required at a station, offset the tests 10 feet longitudinally from one another to form a diagonal testing row across the lane.

Lane Width	No. of Tests	Transverse Location
5 ft or less	1	Random
Greater than 5 ft to 9 ft	2	Random within 2 equal widths
Greater than 9 ft	3	Random within 3 equal widths

Table 1

B.4.1.2 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) A lot represents a combination of the total daily tonnage for each layer and target density.

(2) Each side road, crossover, turn lane, ramp, and roundabout must contain at least one sublot for each layer.

(3) If a side road, crossover, turn lane, or ramp is 1500 feet or longer, determine sublots and random test locations as specified in B.4.1.1.

(4) If a side road, crossover, turn lane, or ramp is less than 1500 feet long, determine sublots using a maximum of 750 tons per sublot and perform the number of random tests as specified in Table 2.

Side Roads, Turn Lanes, Crossovers, Ramps, Roundabouts: Sublot/Layer tonnage	Minimum Number of Tests Required
25 to 100 tons	1
101 to 250 tons	3
251 to 500 tons	5
501 to 750 tons	7

Table 2

B.4.2 Pavement Density Determination

B.4.2.1 Mainline Traffic Lanes and Appurtenances

(1) Calculate the average sublot densities using the individual test results in each sublot.

(2) If all sublot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.

(3) If any sublot average is more than one percent below the target density, do not include the individual test results from that sublot when computing the lot average density and remove that sublot's tonnage from the daily quantity for incentive. The tonnage from any such sublot is subject to disincentive pay according to standard spec 460.5.2.2.

B.4.2.2 Mainline Shoulders

B.4.2.2.1 Width Greater Than 5 Feet

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.2.2 Width of 5 Feet or Less

(1) If all sublot test results are no more than 3.0 percent below the minimum target density, calculate the daily lot density by averaging all individual test results for the day.

(2) If a sublot test result is more than 3.0 percent below the target density, the engineer may require the unacceptable material to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine the limits of the unacceptable material according to B.4.3.

B.4.2.3 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

(1) Determine the pavement density as specified in B.4.2.1.

B.4.2.4 Documentation

(1) Document QC density test data as specified in CMM 8.15. Provide the engineer with the data for each lot within 24 hours of completing the QC testing for the lot.

B.4.3 Corrective Action

(1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.

(2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended testing is in a previously accepted sublot. Testing in a previously accepted sublot will not be used to recalculate a new lot density.

(3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full sublot width within the traffic lanes or shoulders.

(4) Retesting and acceptance of replaced pavement will be according to standard spec 105.3.

(5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the sublot and lot densities.

(6) If 2 consecutive sublot averages within the same paving pass and same target density are more than one percent below the specified target density, notify the engineer and take necessary corrective action. Document the locations of such sublots and the corrective action that was taken.

B.5 Department Testing

B.5.1 Verification Testing

(1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will test randomly at locations independent of the contractor's QC work. The department will perform verification testing at a minimum frequency of 10 percent of the sublots and a minimum of one sublot per mix design. The sublots selected will be within the active work zone. The contractor will supply the necessary traffic control for the department's testing activities.

(2) The QV tester will test each selected sublot using the same testing requirements and frequencies as the QC tester.

(3) If the verification sublot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.

(4) If the verification sublot average is more than one percent below the specified target density, compare the QC and QV sublot averages. If the QV sublot average is within 1.0 lb/ft^3 of the QC sublot average, use the QC tests for acceptance.

(5) If the first QV/QC sublot average comparison shows a difference of more than 1.0 lb/ft^3 each tester will perform an additional set of tests within that sublot. Combine the additional tests with the original set of tests to compute a new sublot average for each tester. If the new QV and QC sublot averages compare to within 1.0 lb/ft^3, use the original QC tests for acceptance.

(6) If the QV and QC sublot averages differ by more than 1.0 lb/ft^3 after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

B.5.2 Independent Assurance Testing

(1) Independent assurance is unbiased testing the department performs to evaluate the department's verification and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform the independent assurance review according to the department's independent assurance program.

B.6 Dispute Resolution

(1) The testers may perform investigation in the work zone by analyzing the testing, calculation, and documentation procedures. The testers may perform gauge correlation according to B.3.2.1.

(2) The testers may use correlation monitoring according to B.3.2.2 to determine if one of the gauges is out of tolerance. If a gauge is found to be out of tolerance with its reference value, remove the gauge from the project and use the other gauge's test results for acceptance.

(3) If the testing discrepancy cannot be identified, the contractor may elect to accept the QV sublot density test results or retesting of the sublot in dispute within 48 hours of paving. Traffic control costs will be split between the department and the contractor.

(4) If investigation finds that both gauges are in error, the contractor and engineer will reach a decision on resolution through mutual agreement.

B.7 Acceptance

(1) The department will not accept QMP HMA Pavement Nuclear Density if a non-correlated gauge is used for contractor QC tests.

C (Vacant)

D (Vacant)

E Payment

E.1 QMP Testing

(1) Costs for all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the Non-performance of QMP administrative item.

E.2 Disincentive for HMA Pavement Density

(1) The department will administer density disincentives according to standard spec 460.5.2.2.

E.3 Incentive for HMA Pavement Density

(1) Delete standard spec 460.5.2.3.

(2) If the lot density is greater than the minimum specified in standard spec table 460-3 and all individual air voids test results for that mixture are within +1.0 percent or -0.5 percent of the design target in standard spec table 460-2, the department will adjust pay for that lot as follows:

Percent Lot Density Above Minimum	Pay Adjustment Per Ton
From -0.4 to 1.0 inclusive	$0
From 1.1 to 1.8 inclusive	$0.40
More than 1.8	$0.80

(3) The department will adjust pay under the Incentive Density HMA Pavement bid item. Adjustment under this item is not limited, either up or down, to the bid amount shown on the schedule of items.

(4) If a traffic lane meets the requirements for disincentive, the department will not pay incentive on the integrally paved shoulder.

(5) Submit density results to the department electronically using the MRS software. The department will validate all contractor data before determining pay adjustments.

460-020 (20100709)

11.3 Aggregate Quality Testing for High-Performance Concrete (HPC) Mixes.

A Description

(1) This provision describes additional requirements for testing the quality of coarse aggregates being used in high-performance concrete mixes for structures and pavements.

(2) Conform to the standard specifications and high-performance concrete provisions contained within the contract, as modified in this provision.

B Materials

B.1 Personnel

(1) Have personnel certified under the department's highway technician certification program (HTCP) perform sampling, testing, and documentation.

B.2 Laboratory

(1) Perform testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:

Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 246-5388
http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm

B.3 Equipment

(1) Furnish the necessary equipment and supplies for performing quality control testing. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

B.4 Records

(1) Document all observations, inspection records, and test results. Submit testing records to the engineer.

B.5 Contractor Testing

(1) Perform all quality control tests necessary to control the production processes applicable to this special provision. Use the test methods identified below, or other methods the engineer approves, to perform the following tests:

LA Wear (100 and 500 revolutions)	AASHTO T 96
Sodium Sulfate Soundness (R-4, 5 cycles)	AASHTO T 104
Freeze-Thaw Soundness	AASHTO T 103
Chert[1]	

[1] Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on the 3/8-inch sieve by the weight of the total sample.

(2) The department may periodically observe contractor sampling and testing, and direct additional contractor sampling and testing for department evaluation. Ensure that all test results are available for the engineer's review at any time during normal working hours.

(3) In addition to the requirements of standard spec 106.3.4.2.2, perform tests for LA wear, sodium sulfate soundness, freeze-thaw soundness and chert at least once per calendar year when producing coarse aggregates for use in high-performance concrete mixes.

(4) Randomly test the percentage of chert at least once per 10,000 tons during production of coarse aggregates to be used in high-performance concrete mixes or at least once per 10,000 cubic yards during placement of high performance concrete pavement.

B.6 Department Testing

(1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will sample randomly at locations independent of the contractor's QC work. In all cases, the department will conduct the verification tests with separate personnel and equipment from the contractor's QC tests. The department will perform verification testing of chert at a frequency of 10 percent of the random quality control tests or a minimum of once per project, or at greater frequency if determined to be necessary by the engineer.

C (Vacant)

D (Vacant)

E Payment

(1) Costs for furnishing all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay.

(NER41-20110718)

11.4 Breaker Run.

Replace standard spec 311.3 (1) with the following:

Place breaker run where the plans show or as the engineer directs. The contractor may substitute select crushed material conforming to 312.2 for breaker run.

(NER41-20111213)

11.5 Concrete Pavement.

Supplement standard spec 415 as follows:

415.3.3 Preparing the Foundation

Add the following text:

Place multiple layers of polyethylene sheets over entire area where concrete pavement contacts the concrete masonry associated with the MSE wall. Total thickness of the sheets shall be at least 0.03 inches.

415.5.1 General

Add the following text:

(6) Payment for multiple layers of polyethylene sheets placed at locations where concrete pavement contacts the concrete masonry associated with the MSE wall is considered incidental to the Concrete Pavement bid items or HPC Concrete Pavement bid items included in the contract.

(NER41-20130305)

11.6 High Performance Concrete (HPC) Pavement.

This special provision describes specialized material and construction requirements to be utilized on all concrete pavement and shoulders. Conform to standard specs 415 and 501, as modified in this special provision. Conform to standard spec 715 for QMP, as modified in this special provision. This special provision applies to the following bid items:

415.0090	Concrete Pavement 9-Inch
415.0105	Concrete Pavement 10 ½-Inch
415.0410	Concrete Pavement Approach Slab

MODIFY STANDARD SPEC SECTION 415 AS FOLLOWS:

415.3.6.2 Slip-Formed Pavement

Add the following as paragraph six:

(6) Treat sawed surfaces of transverse and longitudinal joints with a silane joint sealant found on the department approved products list for Concrete Protective Surface Treatments. Prepare surface by pressure washing all saw slurry from sawed joints and allow to dry thoroughly prior to application of silane sealer. Apply the product directly to the interior of the sawed joint. Do not use the broadcast spray method of application.

MODIFY STANDARD SPEC SECTION 501 AS FOLLOWS:

501.2.1.1 Testing

Add the following to 501.2.1.1:

(4) Test flexural strength according to AASHTO T 97.
Test splitting tensile strength according to AASHTO T 198.

501.2.5.4.1 General

Replace the entire text with the following:

(1) Use clean, hard, durable crushed limestone with 100% fractured surfaces and free of an excess of thin or elongated pieces, frozen lumps, vegetation, deleterious substances or adherent coatings considered injurious.

(2) Use virgin aggregates only.

501.2.5.4.2 Deleterious Substances

Replace standard spec 501.2.5.4.2(1) with the following:

(1) The amount of deleterious substances must not exceed the following percentages:

DELETERIOUS SUBSTANCE	PERCENT BY WEIGHT
Shale	1.0
Coal	1.0
Clay lumps	0.3
Soft fragments	5.0
Any combination of above	5.0
Flat or elongated pieces based on a 3:1 ratio	15.0
Materials passing the No. 200 sieve	1.5
Chert[1]	3.0

[1] Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on a 3/8-inch sieve by the weight of the total sample.

501.2.5.4.3 Physical Properties

Replace standard spec 501.2.5.4.3(1) with the following:

(1) The percent wear shall not exceed 30, the weighted soundness loss shall not exceed 6 percent, and the weighted freeze-thaw average loss shall not exceed 15 percent.

501.3.5.1 General

Replace paragraph one with the following:

(1) Use central-mixed concrete as defined in standard spec 501.3.5.1(2) for all work under this special provision.

501.3.5.2 Delivery

Replace paragraph three with the following:

(3) Deliver and completely discharge the concrete within the following limits, beginning when adding water to the cement, or when adding cement to the aggregates.

Delivered in Agitating Vehicles:

-60 minutes if the concrete temperature is 60 F or higher at placement, and the contractor does not use a department-approved retarder.

- 90 minutes if the concrete temperature is less than 60 F at placement.

- 90 minutes if the concrete temperature is 60 F or higher at placement, and the contractor uses a department-approved retarder.

Delivered in Non-Agitating Vehicles:

- 30 minutes if the concrete temperature is 85 F or higher at placement, and the contractor does not use a department-approved retarder.
- 45 minutes if the concrete temperature is 60 F to less than 85 F at placement, and the contractor does not use a department-approved retarder.
- 60 minutes if the concrete temperature is less than 60 F at placement.
- 60 minutes if the concrete temperature is 60 F or higher at placement, and the contractor uses a department-approved retarder.

Replace paragraph six with the following:

(6) The contractor may deliver central-mixed concrete to the work site by equipment with non-agitating body types. These body types are smooth, mortar-tight, metal containers capable of discharging the concrete at a satisfactorily controlled rate. Do not use aluminum bodies. Provide watertight covers for protection against the weather if necessary. The concrete in these vehicles should show no appreciable water gain at the surface. The concrete should freely and readily discharge from the vehicle, be free of excessive segregation of the fine and coarse aggregates, and have an air content within the required range at the point of discharge. Slump tests made during discharge should not differ by more than 2 inches. Remove all foreign material or accumulated concrete from truck bodies prior to batching concrete into those vehicles.

501.3.8.2.1 General

Replace the entire text with the following:

(1) The contractor is responsible for the quality of the concrete placed in hot weather. For concrete placed under this special provision, submit a written temperature control plan at tor before the pre-pour meeting. In that plan, outline the actions the contractor will take to control concrete temperature if the concrete temperature at the point of placement exceeds 80 F. Do not place concrete under the items in this special provision without the engineer's written acceptance of that temperature control plan. Perform work as outlined in the temperature control plan. The concrete temperature at the point of placement exceeds 90 F, do not place concrete under this special provision.

(2) If the concrete temperature at the point of placement exceeds 90 F, do not place concrete under this special provision.

(3) Notify the engineer whenever conditions exist that might cause the temperature at the point of placement to exceed 80 F. If project information is not available, the contractor should obtain information from similar mixes placed for other nearby work.

(4) If the air temperature exceeds 80 degrees F, ensure that the base material is in a moist condition during concrete placement. Water the base material, as required, not less than 6 hours before placing the concrete. If the base material subsequently dries, moisten

it by sprinkling water just before placing the concrete. Sprinkle the water to avoid forming pools.

505.5 Payment

Replace standard spec 501.5(3) with the following:

(3) Ice, additives, or other actions the contractor takes to control the temperature of concrete are incidental to this item.

Add the following as paragraph four:

(4) Water used to wet the base material is incidental to this item.

MODIFY STANDARD SPEC SECTION 715 AS FOLLOWS:

715.2.3.1 Pavements

Replace standard spec 715.2.3.1(1) with the following:

(1) Use at least 5 pairs of beams and 5 pairs of cylinders to demonstrate the flexural strength and splitting tensile strength of a mix design. Demonstrate that the 28-day flexural strength of the proposed mix will equal or exceed 650 psi. Ensure that the average flexural strength of any one pair of beams is not less than 490 psi. The contractor need not provide separate laboratory mix designs and strength tests for high early strength concrete.

715.3.2.2.1 Pavement

Replace the entire section with:

(1) If a sublot strength is less than 3000 psi, the department may direct the contractor to core that sublot to determine its structural adequacy and whether to direct removal. Cut and test cores according to AASHTO T 24 and as where the engineer directs. Have an HTCP certified PCC technician I perform or observe the coring.

(2) The sublot pavement is conforming if the compressive strengths of all cores from the sublot are 3000 psi or greater or the engineer does not require coring.

(3) The sublot pavement is nonconforming if the compressive strengths of any core from the sublot is less than 3000 psi. The department may direct removal and replacement or otherwise determine the final disposition of nonconforming material as specified in 106.5.

715.5.1 General

Replace standard spec 715.5.1(4) with the following:

(4) The department will adjust pay for each lot using PWL of the 28-day sublot average strengths for that lot. The department will measure PWL relative to the lower specification limit of 4500 psi for pavements. The department will not pay a strength incentive for concrete that is nonconforming in another specified property.

715.5.2 Pavements
Replace paragraph three with the following:

(3) For lots with a full battery of QC tests at less than 4 locations, there is no incentive but the department will assess a disincentive based on the individual sublot average strengths. The department will reduce pay for sublots with an average strength below 4500 psi by $1.50 per square yard.

11.7 Asphaltic Base.

A Description
Furnish materials for and prepare the asphaltic base in accordance to standard spec 315, except as modified herein.

B Materials
Supplement standard spec 315.2 with the following:

Furnish asphaltic mixture meeting the requirements specified for E-1 under standard spec 460.2.

Provide asphaltic material (PG 64-22) for this mix in accordance to standard spec 455.

C Construction
Replace standard spec 315.3.1 with the following:

Conform to the general requirements for asphaltic pavements specified in standard spec 450, except as modified here in 315.3. Place the mixture in a single 3-inch (75 mm) compacted layer unless the engineer directs otherwise. Substandard spec 460.3.2 shall not apply to this item.

If automatics break down during string line controlled placement, stop and suspend placement of the asphaltic base until the line and grade controls are restored.

C.2 Foundation
Prepare the foundation according to standard spec 211. Before placing asphaltic base, repair and re-compact rutted or disturbed areas of the foundation resulting from hauling or paving operations as specified in standard spec 211. If the contractor fails or neglects to perform the required repair of damaged foundation, the engineer may suspend paving operations until the contractor performs satisfactory reconditioning of the foundation.

C.3 Pavers
If the automatics break down during ski controlled placement, the contractor may pave under manual control only until the end of that working day.

C.4 Mixture and Density Testing
Perform QMP testing work as designated in standard spec 460 for this item.

Perform Density testing as designated in standard spec 460 for SMA mixes for this item.

The engineer may waive density testing if acceptable test results are reported and a rolling pattern is established on the first day of paving for this project. The results of this testing will be used to verify that the contractor's rolling pattern yields a minimum of 89.5% of the target maximum density.

Incentive and Disincentive for HMA Pavement Density are not included with this item.

D (Vacant)

E Payment
Supplement standard spec 315.5 with the following:

The department will adjust payment for asphaltic base for non conforming QMP HMA Mixtures as specified in 460.2.8.2.1.7.
(NER41-20090515)

11.8 HMA Pavement – Lower Layers Less Than 2 ¼".

Complete work in accordance to standard spec 460 and as herein provided.

The aggregates for lower layers of pavement less than 2 ¼" shall conform to the gradation requirements in standard spec 460.2.2.3, Table 460-1, based on a nominal size of 12.5mm.

11.9 QMP Ride; Incentive IRI Ride, Item 440.4410.S.

A Description

(1) This special provision describes profiling pavements with a non-contact profiler, locating areas of localized roughness, and determining the International Roughness Index (IRI) for each wheel path segment.

(2) Profile the final riding surface of all mainline pavements**.** Include auxiliary lanes in Category I and II segments; crossroads with county, state or U.S. highway designations greater than 1500 feet in continuous length; bridges, bridge approaches; and railroad crossings. Exclude roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections.

(3) The engineer may direct straightedging under standard spec 415.3.10 for pavement excluded from localized roughness under C.5.2 (1); for bridges; and for roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections. Other surfaces being tested under this provision are exempt from straightedging requirements.

B (Vacant)

C Construction

C.1 Quality Control Plan

(1) Submit a written quality control plan to the engineer at or before the pre-pave meeting. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all quality control personnel.
2. The process by which quality control information and corrective action efforts will be disseminated to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. The methods and timing used for monitoring and/or testing ride quality throughout the paving process. Also indicate the approximate timing of acceptance testing in relation to the paving operations.
4. The segment locations of each profile run used for acceptance testing.
5. Traffic Control Plan

C.2 Personnel

(1) Have a profiler operator, certified under the department's highway technician certification program (HTCP), operate the equipment, collect the required data, and analyze the results using the methods taught in the HTCP profiling course. Ensure that an HTCP-certified profiler operator supervises data entry into the material records system (MRS).

C.3 Equipment

(1) Furnish a profile-measuring device capable of measuring IRI from the list of department-approved devices published on the department's web site:

http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm

(2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface.

(3) Perform daily calibration verification of the profiler using test methods according to the manufacturer's recommendations. Notify the engineer before performing the calibration verification. If the engineer requests, arrange to have the engineer observe the calibration verification and operation. Maintain records of the calibration verification activities, and provide the records to the engineer upon request.

C.4 Testing

C.4.1 Run and Reduction Parameters

(1) Enter the equipment-specific department-approved filter settings and parameters given in the approved profilers list on the department's QMP ride web site.

http://roadwaystandards.dot.wi.gov/standards/qmp/profilers.pdf

C.4.2 Contractor Testing

(1) Operate profilers within the manufacturer's recommended speed tolerances. Perform all profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The wheel tracks are 6.0 feet apart and centered in the traveled way of the lane.

(2) Coordinate with the engineer to schedule profile runs for acceptance. The department may require testing to accommodate staged construction or if corrective action may be required.

(3) Measure the profiles of each standard or partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Field-locate the beginning and ending points for each profile run. When applicable, align segment limits with the sublot limits used for testing under the QMP Concrete Pavement specification. Define segments one wheel path wide and distinguished by length as follows:

1. Standard segments are 500 feet long.
2. Partial segments are less than 500 feet long.

(4) Treat partial segments as independent segments.

The department will categorize each standard or partial segment as follows:

Segments with a Posted Speed Limit of 55 MPH or Greater	
Category	**Description**
HMA I	Asphalt pavement with multiple opportunities to achieve a smooth ride. The following operations performed under this contract are considered as opportunities: a layer of HMA, a leveling or wedging layer of HMA, and diamond grinding or partial depth milling of the underlying pavement surface.
HMA II	Asphalt pavement with a single opportunity to achieve a smooth ride.
HMA III	Asphalt pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.
PCC II	Concrete pavement.
PCC III	Concrete pavement segments containing any portion of a bridge, bridge approach, railroad crossing, intersection or gap. An intersection is defined as the area within the points of curvature of the intersection radii.

Segments with Any Portion Having a Posted Speed Limit Less Than 55 MPH	
Category	**Description**
HMA IV	Asphalt pavement including intersections, bridges, approaches, and railroad crossings.
PCC IV	Concrete pavement including gaps, intersections, bridges, approaches, and railroad crossings.

C.4.3 Verification Testing

(1) The department may conduct verification testing (QV) to validate the quality of the product. A HTCP certified profiler operator will perform the QV testing. The department will provide the contractor with a listing of the names and telephone numbers of all verification personnel for the project.

(2) The department will notify the contractor before testing so the contractor can observe the QV testing. Verification testing will be performed independent of the contractor's QC work using separate equipment from the contractor's QC tests. The department will provide test results to the contractor within 1 business day after the department completes the testing.

(3) The engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's testing procedures and equipment. Both parties will document all investigative work.

(4) If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. Resolve disputes as specified in C.6.

C.4.4 Documenting Profile Runs

(1) Compute the IRI for each segment and analyze areas of localized roughness using the ProVAL software. Also, the contractor shall prepare the ProVAL Ride Quality Module Reports, showing the IRI for each segment and the areas of localized roughness exceeding an IRI of 200 in/mile. Use ride quality module report as follows:

	Fixed Interval	Continuous (Localized Roughness)
Base-length	500'	25'
Threshold	140"/Mile	200"/Mile

The ProVAL software is available for download at:
http://www.roadprofile.com.

(2) As part of the profiler software outputs and ProVAL reports, document the areas of localized roughness. Field-locate the areas of localized roughness prior to the engineer's assessment for corrective actions. Document the reasons for areas excluded and submit to the engineer.

(3) Within 5 business days after completing profiling of the pavement covered under this special provision, unless the engineer and contractor mutually agree to a different timeline, submit the electronic ProVAL project file containing the .ppf files for each profiler acceptance run data and Ride Quality Module Reports, in .pdf format using the department's Materials Reporting System (MRS) software available on the department's web site:
http://www.atwoodsystems.com/mrs

Notify the engineer when the Profiler Acceptance Run data and the Ride Quality Report have been submitted to the MRS system.

C.5 Corrective Actions

C.5.1 General

(1) Analyze the data from the PROVAL reports and make corrective action recommendations to the department. The department will independently assess whether a repair will help or hurt the long-term pavement performance before deciding on corrective action. Correct the ride as the engineer directs in writing.

C.5.2 Corrective Actions for Localized Roughness

(1) Apply localized roughness requirements to all pavements, including HMA III, PCC III, HMA IV, and PCC IV; except localized roughness requirements will not be applied to pavements within 25 feet of the following surfaces if they are not constructed under this contract: bridges, bridge approaches, or railroad crossings. The department may direct the contractor to make corrections to the pavement within the 25-foot exclusionary zones.

(2) The engineer will review each individual wheel track for areas of localized roughness. The engineer will assess areas of localized roughness within 5 business days of receiving notification that the reports were uploaded. The engineer will analyze the report documenting areas that exceed an IRI of 200 in/mile and do one of the following for each location:

1. Direct the contractor to correct the area to minimize the effect on the ride.
2. Leave the area of localized roughness in place with no pay reduction.
3. Except for HMA IV and PCC IV segments, assess a pay reduction as follows for each location in each wheel path:

Localized Roughness IRI (in/mile)	**Pay Reduction[1] (dollars)**
> 200	(Length in Feet) x (IRI –200)

[1] A maximum $250 pay reduction may be assessed for locations of localized roughness that are less than or equal to 25 feet long. Locations longer than 25 feet may be assessed a maximum pay reduction of $10 per foot.

(3) The engineer will not direct corrective action or assess a pay reduction for an area of localized roughness without independent identification of that area as determined by physically riding the pavement. For corrections, use only techniques the engineer approves.

(4) Re-profile corrected areas to verify that the IRI is less than 140 in/mile after correction. Submit a revised ProVAL ride quality module report to the reference documents section of the MRS for the corrected areas to validate the results.

C.5.3 Corrective Actions for Excessive IRI

(1) If an individual segment IRI exceeds 140 in/mile for HMA I, HMA II, and PCC II pavements after correction for localized roughness, the engineer may require the contractor to correct that segment. Correct the segment final surface as follows:

HMA I: Correct to an IRI of 60 in/mile using whichever of the following methods as approved by the engineer:
Mill and replace the full lane width of the riding surface excluding the paved shoulder.
Continuous diamond grinding or fine-tooth milling the full lane width, if required, of the riding surface including adjustment of the paved shoulders.

HMA II: Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer:
Mill and replace the full lane width of the riding surface excluding the paved shoulder.
Continuous diamond grinding or fine-tooth milling of the full lane width, if required, of the riding surface including adjustment of the paved shoulders

PCC II: Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer:
Continuous diamond grinding of the full lane width, if required, of the riding surface including adjustment of the paved shoulders. Conform to sections C.1 through C.4 of Concrete Pavement Continuous Diamond Grinding Special provision contained elsewhere in the contract.
Remove and replace the full lane width of the riding surface.

(2) Re-profile corrected segments to verify that the final IRI meets the above correction limits and there are no areas of localized roughness. Enter a revised ProVAL ride quality module report for the corrected areas to the reference documents section of the MRS. Segments failing these criteria after correction are subject to the engineer's right to adjust pay for non-conforming work under standard spec 105.3.

C.6 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate testing procedures, and perform additional testing.

(2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming pavement, the department will use third party testing to resolve the dispute. The department's Quality Assurance Unit, or a mutually agreed on independent testing company, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent tester. The department may use third party tests to evaluate the quality of questionable pavement and determine the appropriate payment.

D Measurement

(1) The department will measure Incentive IRI Ride by the dollar, adjusted as specified in E.2.

E Payment

E.1 Payment for Profiling

(1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final pavement surface are incidental to the contract. The department will pay separately for engineer-directed corrective action performed within the 25-foot exclusionary zones under C.5.2 as extra work.

E.2 Pay Adjustment

(1) The department will pay incentive for ride under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

(2) Incentive payment is not limited, either up or down, to the amount the schedule of items shows.

(3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.

(4) The department will not assess disincentive on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be according to the requirements for the category of the adjoining segments.

(5) The department will adjust pay for each segment based on the initial IRI for that segment. If corrective action is required, the department will base disincentives on the IRI after correction for pavement meeting the following conditions:

All Pavement:	The corrective work is performed in a contiguous, full lane width section 500 feet long, or a length as agreed with the engineer.
HMA Pavements:	The corrective work is a mill and inlay or full depth replacement and the inlay or replacement layer thickness conforms to standard spec 460.3.2.
Concrete Pavements:	The corrective work is a full depth replacement and conforms to standard spec 415.

(6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation "QMP 1.04" as follows:

HMA I	
Initial IRI (inches/mile)	**Pay Adjustment[1] (dollars per standard segment)**
< 30	250
≥ 30 to <35	1750 – (50 x IRI)
≥ 35 to < 60	0
≥ 60 to < 75	1000 – (50/3 x IRI)
≥ 75	-250

HMA II and PCC II	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 50	250
≥ 50 to < 55	2750 – (50 x IRI)
≥ 55 to < 85	0
≥ 85 to < 100	(4250/3) – (50/3 x IRI)
≥ 100	-250

HMA IV and PCC IV	
Initial IRI (inches/mile)	**Pay Adjustment[1] [2] (dollars per standard segment)**
< 35	250
≥ 35 to < 45	1125-(25xIRI)
≥ 45	0

[1] The department will not assess a ride disincentive for HMA pavement placed in cold weather because of a department-caused delay as specified in 450.5(4) of the contract additional special provisions (ASP 6).

[2] If the engineer directs placing concrete pavement for department convenience, the department will not adjust pay for ride on pavement the department orders the contractor to place when the air temperature falls below 35 F.

(7) The department will prorate the pay adjustment for partial segments based on their length.

11.10 Temporary Haul Road Access for Construction of Structure B-05-672, Item SPV.0105.005.

A Description

Construct a temporary haul road along permanent maintenance road MR3, partially constructed by other previously, to facilitate construction of Structure B-05-672. MR3 parallels the west side of Structure B-05-678, newly-constructed by others. The haul road can be used to transport and store equipment and materials, in accordance to the stipulations of the Section 404 permit. This item provides for construction, and maintenance of the temporary haul road throughout construction, for removing the temporary haul road after construction, and for restoration of the site.

B Materials

Obtain approval of the engineer for all materials and conform to the pertinent requirements of the standard specifications.

Provide clean virgin materials if stone is used; salvaged or recycled materials are not allowed.

C Construction

Wetlands are present in the area of the haul road, and are identified in the plans. Operations, including constructed features, storage of equipment and materials, and stockpile of excavation from pier footings, shall occur only in permitted areas covered by the Section 404 permit, as shown in the plan. If the contractor determines additional area for stockpiling or storage is required, the materials and/or equipment shall be hauled to another location outside the wetland areas.

Address temporary erosion control in the erosion control implementation plan.

At least 14 days prior to the pre-construction meeting, submit a plan to the DNR for approval showing proposed dimensions within the permitted wetland boundaries, materials, method and timetable for construction of the temporary haul road, and its removal.

Construct the temporary haul road to obtain a usable travel way for delivery of equipment and materials. When excavating, avoid wetlands not permitted as temporary impacts.

Provide necessary seeding (Mixture No. 60) and topsoil, temporary erosion control, and culverts to supplement what is provided in the plan for grading and drainage.

When removing the temporary haul road, restore underlying wetlands as closely as possible to their natural state. Thoroughly remove all temporary haul road materials. If necessary, excavate materials below existing ground as necessary to backfill with materials contiguous to the area. Match existing depth of all organic material.

After removing the temporary haul roads, seed the underlying ground with seeding mixture No. 60.

Materials and related items of work necessary to complete construction of permanent maintenance road MR3 at the line, grade, and section shown in the plan, including permanent pipe culverts and backfill, will only be paid for once. If the use of temporary haul road damages previously constructed permanent maintenance road MR3, including associated pipe culverts, restore the permanent feature to conform to the plan without additional compensation. As necessary, replace culverts and/or shape and provide materials necessary for a smooth surface, without bumps and potholes.

D Measurement

The department will measure Temporary Haul Road Access for Construction of Structure B-05-672 as a single complete lump sum unit of work, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.005	Temporary Haul Road Access for Construction of Structure B-05-672	LS

Payment is full compensation for any additional agency coordination and/or permitting; for furnishing all materials; for constructing, maintaining, and removing the temporary haul road; for installation and removal of temporary erosion control and culverts beyond what is provided in the plan for permanent maintenance road MR3; for excavation, if necessary to remove materials below ground, and for backfill; for restoring the site, including excavation, if necessary to remove haul road materials below ground, and for associated backfill; for seeding after removal; for maintaining permanent maintenance road MR3 and culverts to line, grade, and section shown on the plan.

11.11 Temporary Creek Access for Removal and Construction of Structures, Item SPV.0105.006.

A Description

Construct temporary accesses along either side of Duck Creek to remove the existing northbound USH 41 Structure (B-05-71), to remove the existing southbound USH 41 Structure (B-05-70), and to construct the pier for southbound USH 41 Structure B-05-682, located in the channel, as needed to transport equipment and materials, in accordance to the stipulations of the Section 404 permit. Access consists of causeways within the limits of Duck Creek, connected to shoreline access roads. A portion of the south shoreline access road extending to newly-constructed northbound USH 41 Structure B-05-681 may have been left in place by others and shall be removed at the completion of the project. This item provides for the construction and maintenance of shoreline access roads and causeways, removal of access roads and causeways, and the restoration of the site.

B Materials
Obtain approval of the engineer for all materials and conform to the pertinent requirements of the standard specifications.

Provide clean virgin materials for the stone; salvaged or recycled materials are not allowed.

C Construction
Do not place, adjust, or remove causeway materials within the limits of Duck Creek between March 1 and June 15.

A causeway along only one shoreline will be allowed at a time in Duck Creek. Do not place causeway materials along the south shoreline of the creek until all causeway materials have been removed from the creek along the north shoreline.

Operations, including constructed features and storage of equipment and materials shall occur only in permitted areas covered by the Section 404 permit, as shown in the plan.

Maintenance Road MR5 completed under project 1133-11-74 cannot be used to access to shoreline.

Address temporary erosion control, and erosion control to remain after construction, in the erosion control implementation plan.

At least 14 days prior to the pre-construction meeting, submit a plan to the DNR for approval showing proposed dimensions, materials, method and timetable for construction of the shoreline access road and causeway, and removal of the causeway.

According to preliminary geotechnical analysis, the size of stone at the bottom of the causeway may be approximately 8-inches.

Construct shoreline access roads and causeways to obtain a usable travel way for delivery of equipment and materials.

If the shoreline access road is elevated, and does not consist of timber mats, seed the inslopes with seeding mixture No. 60.

Provide seeding, topsoil, and erosion control for the shoreline access road.

Though not expected to be necessary, if dredging is desired to facilitate means and methods of construction, obtain all necessary regulatory agency approvals.

Construction activities shall allow sufficient clearances for the navigation of boat and snowmobile traffic along Duck Creek. As provided under the item “Traffic Control for Duck Creek Recreational Vehicles”, install devices for maintaining boat and snowmobile

traffic during and after construction as shown in the plans, including buoys and signing, prior to the start of any work in the creek.

When removing shoreline access roads, whether constructed under this contract or left in place by others, restore the underlying ground to its original elevation with material contiguous with surroundings, and seed with mixture No. 60.

When removing causeways, restore Duck Creek as closely as possible to its natural state. Thoroughly remove all causeway materials from Duck Creek, but do not excavate below the soil elevation existing prior to placing causeway materials.

D Measurement
The department will measure Temporary Creek Access for Removal and Construction of Structures as a single complete lump sum unit of work, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.006	Temporary Creek Access for Removal and Construction of Structures	LS

Payment is full compensation for any additional agency coordination and/or permitting; for furnishing all materials; for constructing and maintaining shoreline access roads and causeways; for removal of shoreline access roads, whether constructed under this contract or left in place by others; for removal of all causeway materials from Duck Creek; for installation and removal of temporary erosion control along the shoreline access roads; and for seeding and topsoiling. The following erosion control features will be measured and paid for separately: turbidity barrier in the Duck Creek waterway, and permanent heavy riprap along the Duck Creek shorelines.

11.12 Concrete Pavement Joint Layout Project 1133-10-75, Item SPV.0105.011; Concrete Pavement Joint Layout Project 1133-10-77, Item SPV.0105.012.

A Description
This special provision describes designing the joint layout and staking the location of all joints on the project, including mainline and intersections (traditional and roundabouts) to accommodate the concrete paving operation.

B (Vacant)

C Construction
Design the joint layout and stake the location of all joints on the project, including mainline and intersections (traditional and roundabouts), to accommodate the concrete paving operation. Plan and set all points necessary to establish the horizontal position of

the transverse and longitudinal joints in the concrete pavement in accordance to the plans, the American Concrete Pavement Association Intersection Joint Layout Guidelines, and as directed by the engineer. Establish the joint layout in a manner to best-fit field conditions, construction staging, the plan, and as directed by the engineer.

D Measurement
The department will measure Concrete Pavement Joint Layout, completed in accordance to the contract and accepted, as a single complete lump sum unit of work.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.011	Concrete Pavement Joint Layout Project 1133-10-75	LS
SPV.0105.012	Concrete Pavement Joint Layout Project 1133-10-77	LS

Payment is full compensation for designing the joint layout on the mainline and all traditional and roundabout intersections; for completing all surveying work necessary to locate all transverse and longitudinal joints; for making adjustments to match field conditions and construction staging.
(NER41-20101117)

11.13 Maintenance Road Excavation MR2, Item SPV.0105.009; MR3, Item SPV.0105.0010.

A Description
This special provision describes excavating for the permanent maintenance roads in accordance to standard spec 205, the plans, and as hereinafter provided.

B Materials
Materials are in accordance to standard spec 205.2.

C Construction
Construct in accordance to the requirements of standard spec 205.3 and as shown in the plans.

Excavate undercut for breaker run special and base aggregate dense ¾-inch special per the typical section.

Portions of excavating for the permanent maintenance roads not included in this item include the following areas:
Station 1197+00 NIH to Station 1204+50 SIH for MR5

The above earthwork stationing will be paid for separately with the adjacent roadways according to the earthwork summary table as shown in the plans.

D Measurement
The department will measure Maintenance Road Excavation (Location), completed in accordance to the contract and accepted, as a single complete lump sum unit of work.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.009	Maintenance Road Excavation MR2	LS
SPV.0105.010	Maintenance Road Excavation MR3	LS

Payment is in accordance to standard spec 205.5. If excavation below subgrade (EBS) is required, exceeding the 12" X 18' undercut provided under this item as shown in the plan, it will be paid for as Common Excavation.

11.14 Concrete Pavement Variable Depth, Item SPV.0180.008.

A Description
This special provision describes construction of variable concrete pavement in conformance with the lines and grades shown on the plans as directed by the engineer and as hereinafter provided.

B Materials
Furnish concrete and materials in accordance to standard spec 415.2.

C Construction
Use construction methods conforming to standard spec 415.3.

D Measurement
The department will measure Concrete Pavement Variable Depth by the square yard, acceptable completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.008	Concrete Pavement Variable Depth	SY

Payment is in accordance to standard spec 415.5.

11.15 Concrete Pavement, Cold Weather Covering, Plastic 1 Layer, Item SPV.0180.011; Plastic 2 Layers, Item SPV.0180.012; Plastic/Hay/Plastic or Blankets, Item SPV.0180.013.

A Description
Place protective covering in accordance to standard spec 415.3.13, the plans, standard detail drawings, and as hereinafter provided.

B Materials
Furnish materials that meet the requirements specified in standard spec 415.3.13.2.

C (Vacant)

D Measurement
The department will measure the Concrete Pavement Cold Weather Covering (Type) by the square yard, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.011	Concrete Pavement, Cold Weather Covering, Plastic 1 Layer	SY
SPV.0180.012	Concrete Pavement, Cold Weather Covering, Plastic 2 Layers	SY
SPV.0180.013	Concrete Pavement, Cold Weather Covering, Plastic/Hay/Plastic or Blankets	SY

Payment is full compensation for supplying the plastic, hay, material sufficient to weight down the insulating materials to withstand wind, and for furnishing all labor, tools, equipment, and incidentals required to place, remove, replace and dispose of all covering materials as required during normal concreting operations. Heating of water, aggregates, or both, if deemed necessary by the contractor to maintain placement temperature, is incidental to this item.
(NER41-20100201)

11.16 Base Aggregate Dense ¾-Inch Special, Item SPV.0195.001.

A Description
This special provision describes providing base aggregate dense ¾-inch, exclusively consisting of virgin material.

B Materials
Provide virgin materials; salvaged or recycled materials are not allowed. Otherwise, conform to standard spec 305.2.

C Construction
Conform to standard spec 305.3.

D Measurement
Conform to standard spec 305.4 (1).

The department will measure Base Aggregate Dense ¾-Inch Special by the ton, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.001	Base Aggregate Dense ¾-Inch Special	TON

Payment is full compensation conforming to standard spec 305.5(2) and standard spec 305.5(4).

11.17 Breaker Run Special, Item SPV.0195.002.

A Description
This special provision describes providing breaker run, exclusively consisting of virgin material.

B Materials
Provide virgin materials; salvaged or recycled materials are not allowed. Otherwise, conform to standard spec 311.2.

C Construction
Conform to standard spec 311.3.

D Measurement
Conform to standard spec 311.4 (1).

The department will measure Breaker Run Special by the ton, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.002	Breaker Run Special	TON

Payment is full compensation conforming to standard spec 311.5 (2) and standard spec 311.5 (3).

11.18 Limestone Screenings, Item SPV.0195.004.

A Description
Construct the shoulder surface of the multiuse path with limestone screenings as shown on the plans and directed by the engineer and as hereinafter provided.

B Materials
Provide limestone screenings conforming to the following gradation requirements:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
3/8 inch	100
No. 4	80-95
No. 40	65-86
No. 100	25-40
No. 200	8-25

C Construction
Construct the limestone in accordance to standard spec 305.3.

D Measurement
The department will measure Limestone Screenings by the ton, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.004	Limestone Screenings	Ton

Payment is full compensation for preparing the foundation; and for stockpiling, placing, shaping, compacting, and for maintaining the limestone surface throughout construction.

11.19 Cold Patch, Item SPV.0195.005.

A Description
This special provision describes furnishing, stockpiling, placing, and maintaining cold patch material. The cold patch material shall be used for short term maintenance purposes to fill potholes/voids in the existing pavement surface that the engineer deems necessary.

B Materials
B.1 General
Furnish cold patch that is a combination of coarse aggregate, natural sand and bituminous material MC-250. The mixture shall be designed to have a workability range of 15ºF-100º F without the addition of heat. The mixture shall have good adhesion to wet surfaces and be resistant to damage by water, salt and deicing products. The mixture shall be uniform and not require any mixing or special handling prior to use.

B.2 Gradations
Conform to the following gradation requirements:

SIEVE SIZE	PERCENT PASSING (by weight)
3/8 Inch (9.5mm)	96 - 100
No. 4 (4.75 mm)	76 - 82
No. 8 (2.38mm)	50 - 60
No. 50 (.297mm)	15 - 20
No. 200 (.074mm)	2 - 5
Bitumen	4.8 - 5.2

C Construction
C.1 General
Choose a smooth, firm, and well-drained area for an on-site stockpile that is cleared of vegetation and foreign material that may contaminate the cold patch. The stockpile shall be easily accessible and able to be maintained and replenished at any time during the duration of the project.

Application of the cold patch must be able to be accomplished by hand labor. Prior to filling any potholes/voids all ponded water and loose debris shall be removed. Place material into the pothole/void and compact flush with a tamper, roller, or vehicle tire. Traffic must be able to travel over the patch immediately after installation.

D Measurement
The department will measure Cold Patch by the ton stockpiled on site, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.005	Cold Patch	Ton

Payment for cold patch is full compensation for the patch; furnishing and providing a stockpile of material; preparing the pothole/void for material placement, stockpiling, placing, compacting, and maintaining, and all incidentals necessary to complete the contract work.

The contractor shall be compensated for any unused stockpile quantities remaining on site at the completion of the project, thus the stockpile is not to exceed 10 tons on site at any given time unless approved by the engineer.

Any unused portions of the stockpile shall be removed and disposed of at the completion of the project unless otherwise directed by the engineer. This work shall be completed at no additional expense to the department.

12. Bridges.

12.1 Notice to Contractor, Deck Curing.

Water may be available from the adjacent municipalities to provide continuous water for deck curing. If the contractor chooses to use a municipal hydrant to water the deck, the contractor provides the flow meter and State Registered reduced pressure principle backflow preventer assembly for each connection. Provide affidavit of use stating if new, or if previously used, that it has only been used on potable water sources. Municipality will test the flow meter and the backflow preventer assembly. Any meter or backflow preventer failing the tests will be returned to the contactor for repair. The municipality reserves the right to disapprove of a hydrant use based on fire protection or other public safety concerns. Municipality will connect the equipment to the hydrant and remove the equipment from the hydrant when work is complete. Contractor shall not operate municipal hydrants. Contact Geoff Farr at (920) 434-4060 for the Village of Howard for testing, installation or removal. Contractor will pay all costs for water, testing, Municipality staff time and any other related fees. The Municipality will not be held responsible for any damage to the flow meters or back flow preventers as a result of unsuitable water supply.
(NER41-20100426)

12.2 Structure Backfill.

Replace standard spec 210.2.1(1) with the following:

(1) Furnish and use sand, a mixture of sand and gravel, crushed gravel, crushed stone or crushed concrete. The maximum material size used shall have 100 percent pass a 3-inch sieve, not less than 25 percent by weight passes a No. 4 sieve and, of the material passing the No. 4 sieve, not more than 15.0 percent passes a No. 200 sieve.

12.3 Concrete Masonry Retaining Walls.

This special provision describes requirements for concrete used in culverts and retaining walls in accordance to standard spec 504 except hereinafter modified.

Replace the QMP requirements for culverts and retaining walls in standard spec 504.2(3) with the following:

- For culverts and retaining walls as specified in standard spec 715 for class I structure concrete except as modified hereinafter.

Replace standard spec 715.5.3 with the following:

715.5.3 Structures

(1) The department will adjust pay for each lot using equation "QMP 2.03" as follows:

Percent within Limits (PWL)	Pay Adjustment [1] (dollars per cubic yard)
≥ 90 to 100	0
≥ 50 to < 90	(7/8 x PWL) – 78.75
< 50	-35

(2) For lots with less than four sublots, the department will assess a disincentive based on the individual sublot average strengths. The department will reduce pay for sublots with an average strength below 4000 psi by $35 per cubic yard.

(NER41-20110718)

12.4 Driven Piles Using Pile Dynamic Analyzer.

Where indicated in the structure plans, replace standard spec. 550.3.6 with the following:

550.3.6 Driving Resistance

(1) Drive piles to the depths necessary to obtain the required driving resistance per the driving resistance determination method called for in the plans.

(2) Develop driving resistance criteria from Pile Dynamic Analyzer (PDA) testing performed on the designated piles at each substructure unit as shown on the plans. The driving resistance criteria will be given as blows per foot with hammer stroke and minimum penetration of the pile or as directed by the engineer.

The PDA test piles at each substructure unit are designated on the plans and will be monitored using a PDA. Pile installation for these test piles will be controlled by the PDA testing per the Pile Dynamic Analyzer (PDA) Testing and Restrike Special Provision within this contract.

For the PDA driving resistance determination method, pile restrikes will be required per the PDA Testing and Restrike Special Provision, or as directed by the engineer. Accommodate a time delay in the pile driving sequence as defined in the PDA Testing Special Provision to allow time to develop the production pile driving criteria.

(3) If the required driving resistance is not met at the minimum tip elevation, driving shall continue until it is achieved. If the required driving resistance is achieved above the minimum tip elevation, driving shall continue until both the minimum tip elevation and required driving resistance criteria are met. If practical pile refusal is encountered prior to the minimum tip elevation, the engineer will determine if driving can be halted.

Where indicated in the structure plans, delete standard spec. 550.3.7.

12.5 Debris Containment Structure B-05-673, Item 203.0225.S.701; B-05-668, Item 203.0225.S.705.

A Description

This special provision describes providing a containment system to prevent debris from structure removal, reconstruction, or other construction operations from falling onto facilities located under the structure. Using this containment system does not relieve the contractor of requirements under standard spec 107.17 and standard spec 107.19 or requirements under a US Army Corps of Engineers Section 404 Permit.

B (Vacant)

C Construction

Prior to starting work, submit a debris containment plan to the engineer for review. Debris containment shall include the use of timber crane pads, sand or other similar materials approved by the engineer to protect Wisconsin Central Ltd. railroad track. Incorporate engineer-requested modifications. Do not start work over Wisconsin Central Ltd. railroad track until the engineer approves the debris containment plan.

Maintain adequate protection throughout construction for people and property within the potential fall zone. Ensure that a containment system capable of protecting underlying facilities from falling construction debris is in place before beginning deck repair, parapet removal, or other operations that may generate debris.

D Measurement

The department will measure Debris Containment Structure (Structure) as a single lump sum unit of work for each structure, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
203.0225.S.701	Debris Containment Structure B-05-673	LS
203.0225.S.705	Debris Containment Structure B-05-668	LS

Payment is full compensation for furnishing, installing, maintaining, and removing a debris containment system.

12.6 Removing Old Structure Over Waterway With Minimal Debris Station 1212+00, Item 203.0600.S.700; Station 1212+01, Item 203.0600.S.701.

Conform to standard spec 203 as modified in this special provision.

Add the following to standard spec 203:

203.3.6 Removals Over Waterways and Wetlands

203.3.6.2 Removing Old Structure Over Waterway with Minimal Debris

(1) Remove the existing Structure B-5-070 and B-5-071 over the Duck Creek in large sections and conforming to the contractor's approved structure removal and clean-up plan. During superstructure removal, prevent all large pieces and minimize the number of small pieces from entering the waterway or wetland. Remove all reinforcing steel, all concrete, and all other debris that falls into the waterway or wetland. The contractor may leave limited amounts of small concrete pieces scattered over the waterway floor or wetland only if the engineer allows.

(2) Submit a structure removal and clean-up plan as part of the erosion control implementation plan required under standard spec 107.20. Do not start work under the structure removal and clean-up plan without the department's written approval of the plan. Include the following information in the structure removal and clean-up plan:

- Methods and schedule to remove the structure.
- Methods to control potentially harmful environmental impacts.
- Methods for superstructure removal that prevent all large pieces and minimize the number of small pieces from entering the waterway or wetlands.
- Methods to control dust and contain slurry.
- Methods for removing piers and abutments. If blasting in water, include restrictions that regulatory agencies and the contract require.
- Methods for cleaning the waterway or wetlands.

(3) If stockpiling spoil material, place it on an upland site an adequate distance from the waterway, wetland, or any open water created by excavation. Install silt fence between the spoil pile and the waterway, wetland, or excavation site.

Add the following Removing Old Structure bid item to standard spec 203.5.1:

ITEM NUMBER	DESCRIPTION	UNIT
203.0600.S.700	Removing Old Structure Over Waterway With Minimal Debris Station 1212+00	LS
203.0600.S.701	Removing Old Structure Over Waterway With Minimal Debris Station 1212+01	LS

203-020 (20080902)

12.7 Stockpile Formliners and Stain.

A Description

This special provision describes furnishing and delivering to the department formliners and concrete stain used on bridges, walls, sign bases, and other areas upon completion of the project.

B Materials
Provide a document containing the pertinent information for the formliners and stain colors incorporated into the project along with materials in accordance to the following:

B.1 Concrete Stain
Provide stain colors in accordance to the specifications for the staining items included in the contract. Materials shall be provided in original manufacturer's containers which allow for long term storage. Partial containers of stain will not be accepted.

B.2 Formliners
Provide section(s) of reusable formliner for the architectural pattern(s) used in the contract.

C Construction
The required formliners and stain become the property of the department upon completion of the project. The department will inspect the materials prior to delivery to the local municipality or to the department office to ensure materials are in an acceptable condition.

Deliver the items to the local municipality or department as approved by the engineer. Coordinate time and location of delivery with the engineer.

Deliver the following items:

- Formliner: Four 4-feet high x 3-feet wide formliner panels for each architectural pattern per municipality used.
- Stain: 5 gallons of each color of stain for each municipality on the project.

D Measurement
The department will not make measurement for these items and they will be considered incidental to the other items in the contract.

E (Vacant)
(NER41-20120917)

12.8 Expansion Device Modular B-05-672, Item 502.3110.S.001.

A Description
This special provision describes furnishing and installing a shop-fabricated waterproof modular expansion device in accordance to standard spec 502, the plans, and as hereinafter provided. The modular expansion joint device shall seal the deck surface, curbs, gutters, and parapet walls as indicated on the plans. Any leaking or seeping of water through the joint will be cause for rejection of the modular expansion device.

B Materials

B.1 General

Furnish parts and elements that have material properties meeting the physical and chemical requirements shown in their manufacturer's technical data or as noted below, except as modified by pertinent parts of the standard specifications, this special provision, or the plans. Furnish certified test results from the manufacturer attesting to physical and chemical properties. Do not use any aluminum components or hardware.

B.2 Modular Expansion Device System Components

Furnish components for the Modular Expansion Device System from one of the following manufacturers and model series:

- D.S. Brown Company, Steelflex Modular D-Series
  (419) 257-3561

- R.J. Watson, Inc., Modular RJW-Series
  (716) 741-2166

- Watson, Bowman, and Acme Inc., Wabo-Maurer STM-Series
  (716) 691-7566

B.3 Steel Plates, Bars, Shapes, and Sheets

Furnish steel plates, bars, shapes, and extrusions that have been fabricated from high strength, low alloy grade 50 or grade 50W steel conforming to ASTM A709, or as shown on the approved shop drawings. Anchor bars and support bar boxes may be fabricated from ASTM A709 grade 36 steel. Furnish anchor bolts, bolts, nuts, and washers that conform to the requirements of ASTM A325. Secondary shapes or joint components may be assembled with bolts, nuts, and washer conforming to ASTM A490.

Furnish stainless steel sheets for the sliding surfaces of support bars that conform to the requirements of ASTM A167, alloy 304, 20 micro-inch RMS finish.

B.4 Elastomeric Seal Elements

Furnish preformed elastomeric seal elements that are polychloroprene (neoprene) of a rectangular or strip cross section having a minimum thickness of ¼-inch and conform to ASTM D3542 modified to omit the recovery test. The elastomeric seal elements shall meet the following physical properties:

Property	Requirement	Test Method
Tensile Strength, min	2000 psi	ASTM D412
Elongation @ Break, min	250%	ASTM D412
Hardness, Type A, Durometer	60± 5 pts	ASTM D2240
Compression Set, 70 Hrs @ 212º F, max	35%	D395 Method, B Modified
Ozone Resistance, after 70 hours at 100º F under 20% Strain with 100 pphm ozone	No Cracks	ASTM D1149 and D518, Method A
Mass Change in Oil 3 after 70 hours @ 212º F, Mass Change, max	45%	ASTM D471

Furnish manufacturer's certification for production of polychloroprene represented, showing test results for the cured material supplied and certifying that it meets all specified requirements.

The seal element shall be one piece, and full length of the expansion joint including curb and parapet face projections. The lubricated adhesive for installing the preformed elastomeric elements in place shall be one-part moisture curing polyurethane and hydrocarbon solvent mixture as recommended by the manufacturer.

B.5 Support Bars

Place support bars parallel to the roadway at a maximum support assembly spacing of 4'-0". Furnish support bars that are not less than 1½-inches in width and at least 4-inches in height; each transverse center beam shall have an individual support bar.

Support bars shall incorporate stainless steel sliding surfaces to minimize resistances to joint movements. Stainless steel shall be welded to support bars. Support the support bars above, below, and laterally as required to prevent uplifting, transmit bearing loads, and to maintain positioning of the bar.

Fabricate support bar bearings from polyurethane compound with PTFE self lubricating surfaces having engineering properties equivalent to adiprene, Teflon, or cast nylon with MDS. Positively lock the support bar bearings and springs or spacers into the support box by a dowel or pin. The connection must permit subsequent removal and replacement of the bearings and springs. The support bar springs shall be constructed similarly to the bearings but shall provide the required precompressive force to maintain the support bar in place while under traffic loads. Use a suitable equilibrium device that works counter to the compression forces of the sealing elements to maintain equalized expansion properties for each element across the modular joint assembly. Furnish anchor plates for the support bar springs or neoprene blocks that have a minimum thickness of ¾-inch.

B.6 Transverse Center Beams

Transverse center beams shall be at least of 4½-inches in height and have a minimum vertical web thickness of ¾-inch. Design transverse center beams for an AASHTO HS25 live loading plus 30 percent impact. Make shop splices in the transverse center beam with a full penetration weld. The exterior transverse beams shall have a minimum vertical web thickness of ¾-inch.

The connections between the transverse center beams and support bars shall be a full penetration weld in accordance to the details shown on the plans. Full penetration welds to be tested by ultrasound using the compressive criteria.

B.7 Support Bar Boxes

Furnish support bar boxes that consist of steel plates not less than ½-inch in thickness fabricated with continuous welds at all joints. The inside dimensions of the box shall be consistent with all boxes and within +0.040 inches of prescribed height as measured where the bearings and spring compress about the support bar. Fabricate support box plates with a continuous weld. Make anchorage details as shown on the plans.

B.8 Structural Steel Surfaces

Galvanize after fabrication, in accordance to ASTM A123, all structural steel surfaces of the expansion joint devices and anchorages, except ASTM A-490 bolts, components of stainless steel, and parts coated with polyurethane, adipene, nylon, or Teflon.

Galvanize or metallize in accordance to standard spec 635 all bolts, nuts, washers, and steel components that are not galvanized using the above procedure, including all ASTM A-490 bolts.

If a retainer clip is used for locking the neoprene strip type seal, continuously weld it on its top side. Due to the galvanizing coating requirement, also make a continuous weld underneath the clip.

All welding shall be in accordance to AWS D1.5 or D1.6 of the welding code and shall be done by certified welders only. A shop certified under AISC category for simple structures shall perform fabrication.

The fabricator will be permitted to shop weld pre-galvanized transverse roadway sections, complete with anchorages, of the expansion device steel extrusions. The pre-galvanized roadway sections shall be not less than 10 feet long. The pre-galvanized roadway side sections shall have additional anchorages, if required, so as to provide an anchorage within 9 inches of each end of the section. Abutting ends shall be beveled ¼-inch on three sides and deburred. All galvanizing shall be completely removed from the areas to be welded. The pre-galvanized sections shall be groove welded on three sides with care taken to prevent weld material from entering the gland groove. The weld across the top of the extrusion shall be ground smooth and all areas of galvanizing damaged by the welding operations shall be repaired in accordance to standard spec 635. Make field splices in transverse center roadway sections with a partial penetration weld.

C Construction

The manufacturer of the prefabricated expansion joint assembly shall prepare shop drawings showing details of the assembly and installation.

Support the modular joint assembly at 8'-0 minimum spacing along both sides of the joint. Construct the modular expansion device system in accordance to the details shown on the shop drawings. Tolerance requirements shall be in accordance to AASHTO specifications.

Install in accordance to the plan details, the manufacturer's and supplier's approved shop drawings, and as directed by the engineer. In addition, the manufacturer shall submit current product literature with the shop drawings and the shop drawings shall reflect that literature.

Remove all modular expansion joint forming material from the joint opening. Pre-set the modular joint assembly in accordance to the approved shop drawings, joint temperature setting data, and specifications. The maximum joint opening for a single modular unit shall be 3 inches.

The joint assembly manufacturer shall furnish technical assistance to the contractor and engineer through the personal services of a technical representative, who is a fulltime employee of the manufacturer during installation of the joint sealing systems. This representative shall be accessible to the engineer and shall be at the site during the work that involves the setting of all parts of each modular expansion joint assembly. The contractor shall be responsible for informing the representative prior to the date of installation.

D Measurement
The department will measure Expansion Device Modular (Structure) as a single lump sum unit for the structure, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
502.3110.S.001	Expansion Device Modular B-05-672	LS

Payment is full compensation for furnishing and placing the device complete in place; furnishing and completely installing all elements and parts of the joints, anchors, armor or structural metal; galvanizing materials; furnishing and installing all hardware, pads, bonding material, and reinforcing bars within the blockout not otherwise covered for payment, and barrier railing plates.
502-021 (20100709)

12.9 Anchor Assemblies Light Poles on Structures, Item 657.6005.S.

A Description
This special provision describes furnishing and installing anchor bolt assemblies for light poles as shown on the plans, and as hereinafter provided.

B Materials
Furnish anchors of the size and spacing as given on the plans, and that conform to ASTM A449 or AASHTO M314 GR 55. The upper 8 inches of the bolts, nuts, and washers shall be hot-dipped galvanized in accordance to ASTM A153, Class C. Provide enlarged threads on nuts for proper fit after galvanizing.

C Construction
Provide two nuts and two washers per anchor bolt, and install per light standard manufacturer's recommendations.

D Measurement
The department will measure Anchor Assemblies Light Poles on Structures as a unit for each individual anchor bolt assembly, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
657.6005.S	Anchor Assemblies Light Poles on Structures	Each

Payment is full compensation for furnishing and installing the anchorages.
657-060 (20100709)

12.10 High Performance Concrete (HPC) Masonry Structures, Item SPV.0035.700.

This special provision describes specialized material and construction requirements for high-performance concrete used in bridge structures. Conform to standard specs 501 and 502 as modified in this special provision. Conform to standard spec 715 for QMP, as modified in this special provision.

MODIFY SECTION 501 OF THE STANDARD SPECIFICATIONS AS FOLLOWS:

501.2.5.4.1 General
Replace the entire text with the following:

(1) Use clean, hard, durable crushed limestone with 100% fractured surfaces and free of an excess of thin or elongated pieces, frozen lumps, vegetation, deleterious substances or adherent coatings considered injurious.

(2) Use virgin aggregates only.

501.2.5.4.2 Deleterious Substances
Replace paragraph one with the following:

(1) The amount of deleterious substances must not exceed the following percentages:

DELETERIOUS SUBSTANCE	PERCENT BY WEIGHT
Shale	1.0
Coal	1.0
Clay lumps	0.3
Soft fragments	5.0
Any combination of above	5.0
Thin or elongated pieces based on a 3:1 ratio	15.0
Materials passing the No. 200 sieve	1.5
Chert[1]	1.0

[1]Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on a 3/8-inch sieve by the weight of the total sample.

501.2.5.4.3 Physical Properties
Replace paragraph one with the following:

(1) The department will ensure that Los Angeles wear testing conforms to AASHTO T 96, soundness testing conforms to AASHTO T 104 using 5 cycles in sodium sulfate solution on aggregate retained on the No. 4 sieve, and freeze-thaw soundness testing conforms to AASHTO T 103. The percent wear must not exceed 30, the weighted soundness loss must not exceed 6 percent, and the weighted freeze-thaw average loss must not exceed 15 percent.

501.2.9 Concrete Curing Materials
Replace paragraph 3 with the following:

(3)Furnish burlap conforming to AASHTO M 182, class 1, 2, 3 or 4.

501.3.2.4.3.3 Extended Delivery Time
Delete paragraph one.

501.3.5.2 Delivery
Replace paragraph three with the following:

(3) Deliver and completely discharge concrete within one hour beginning when adding water to the cement, or when adding cement to the aggregates. A decrease in air temperature below 60° F or the use of department-approved retarders does not increase the discharge time.

501.3.7.1 Slump
Replace the entire text with the following:

(1) Use a 2-inch to 4-inch slump.

(2) Perform the slump tests for concrete according to AASHTO T 119.

501.3.8.2.1 General
Replace the entire text with the following:

(1) The contractor is responsible for the quality of the concrete placed in hot weather. Submit a written temperature control plan at or before the pre-pour meeting. In that plan, outline the actions the contractor will take to control concrete temperature if the concrete temperature at the point of placement exceeds 80° F. Do not place concrete without the engineer's written acceptance of that temperature control plan. Perform the work as outlined in the temperature control plan.

(2) If the concrete temperature at the point of placement exceeds 80° F, do not place concrete for items covered in this special provision.

(3) Notify the engineer whenever conditions exist that might cause the temperature at the point of placement to exceed 80° F. If project information is not available, the contractor should obtain information from similar mixes placed for other nearby work.

(4) Any additive or action taken by the contractor to control the temperature of the concrete to within the limits of this special provision, including but not limited to the addition of ice to the concrete mix, is considered incidental to the work and will not be measured or paid for separately.

501.3.8.2.2 Bridge Decks
Replace the entire text with the following:

(1) Do not place concrete for bridge decks when the ambient air temperature is above 80° F.

(2) For concrete placed in bridge decks, submit a written evaporation control plan at each pre-pour meeting. In that plan, outline the actions the contractor will take to maintain concrete surface evaporation at or below 0.15 pounds per square foot per hour. Do not place concrete for bridge decks without the engineer’s written acceptance of that evaporation control plan. Perform the work as outlined in the evaporation control plan.

(3) If predicting a concrete surface moisture evaporation rate exceeding 0.15 pounds per square foot per hour, do not place concrete for bridge decks.

(4) Provide evaporation rate predictions to the engineer 24 hours prior to each bridge deck pour.

(5) Compute the evaporation rate from the predicted ambient conditions at the time and place of the pour using the nomograph, or computerized equivalent, specified in CMM 5.25, figure 1. Use weather information from the nearest national weather service station. The engineer will use this information to determine if the pour will proceed as scheduled.

(6) At least 8 hours before each pour, the engineer will inform the contractor in writing whether or not to proceed with the pour as scheduled. If the actual computed evaporation rate during the pour exceeds 0.15 pounds per square foot per hour, at the sole discretion of the engineer, the contractor may be allowed to implement immediate corrective action and complete the pour.

MODIFY SECTION 502 OF THE STANDARD SPECIFICATIONS AS FOLLOWS:

502.3.5.4 Superstructures
Delete paragraph six.

502.3.7.8 Floors
Replace paragraph five with the following:

(5) The contractor shall set the rails or tracks, that the machine finisher rides on, to the required elevation; and ensure they adjust to allow for settlement under load. The rails or tracks shall be supported outside the limits of the finished riding surface. Rails or tracks are not allowed to be supported within the finished riding surface, without written permission of the engineer.

Delete paragraphs thirteen, fourteen and fifteen. Add the following to the end as paragraphs nineteen, twenty and twenty-one.

(19) Do not place bridge deck concrete more than 10 feet ahead of the finishing machine. If there is a delay of more than 10 minutes during the placement of a bridge deck, cover all concrete (unfinished and finished) with wet burlap to protect the concrete from evaporation until placement operations resume.

(20) Hand finishing, except for the edge of deck, must be kept to a minimum. The finishing machine must be equipped with a pan behind the screed. Apply micro texture using a broom or turf drag following the use of a 10-foot straight edge. Only finish by hand as necessary to close up finished concrete. Begin wet curing the deck immediately following the micro texture.

(21) For bridge decks with a design speed of 40 mph or greater, provide longitudinal grooving according to the provision included in this contract.

502.3.8.1 General
Replace paragraph one with the following:

(1) Maintain adequate moisture throughout the concrete mass to support hydration for at least 14 days.

502.3.8.2.1 General
Replace the entire text with the following:

(1) Wet-cure the concrete for bridge decks, approach aprons, sidewalks and raised medians for 14 days by use of a soaker hose system, or other engineer-approved methods. Cover the finished surface of bridge decks and overlays with one layer of wetted burlap or wetted cotton mats within 10 minutes after the finishing machine has passed. Apply the burlap/cotton gently so as to minimize marking of the fresh concrete. Keep the first layer of burlap/cotton continuously moist by means of fogging equipment until the bridge deck or overlay is sufficiently hard to apply a second layer of wetted burlap/cotton. Care shall be taken to not apply too much water to the fresh concrete surface. Any and all damage to the concrete surface shall be the responsibility of the contractor to correct to the engineer's approval. The intent is to keep the surface moist until the soaker hose system is in place. Free standing water shall not be on or running off the deck surface. Immediately after applying the second layer of burlap/cotton, continue to keep the deck moist until placing and activating the soaker hose system. Throughout the remainder of the curing period, keep the burlap/cotton continuously wet with soaker hoses hooked up to a continuous water source. Inspect the burlap/cotton twice daily to ensure the entire surface is moist. If necessary, alter the soaker hose system as needed to ensure the entire surface is completely covered and stays moist. After 48 hours from the time of completion of the bridge deck or overlay pour, the soaker hose system and burlap/cotton may be covered with polyethylene sheeting. Provide a continuous flow of water through the soaker hose system for the entire curing period.

(2) Do not uncover any portion of the deck at any time for any reason during the first 7 days of the curing period.

(3) Set up and test the fogging system before each bridge deck, raised median and sidewalk pour. The fogging system must remain set up and in operating condition for the duration of the pour.

502.3.8.2.3 Decks
Delete the entire text.

502.3.8.2.4 Parapets
Replace the entire text with the following:

(1) Cure the inside and outside concrete faces and tops of railings or parapets by covering with wetted burlap immediately after form removal and surface finish application. Keep the burlap thoroughly wet for at least 7 days; or by covering for the same period with thoroughly wet polyethylene-coated burlap conforming to standard spec 501.2.9.

(2) Secure coverings along all edges to prevent moisture loss.

502.3.9.6 Bridge Decks
Replace paragraph two with the following:

(2) Protect the underside of the deck, including the girders, for bridge deck and overlay pours by housing and heating when the national weather service forecast predicts temperatures to fall below 32° F during the cold weather protection period. Maintain a minimum temperature of 40° F in the enclosed area under the deck for the entire 14-day curing period.

502.5.1 General
Replace paragraph one with the following:

The department will pay for measured quantities at the contract unit price and incidentals necessary to complete the work under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.700	HPC Masonry Structures	CY

MODIFY SECTION 710 OF THE STANDARD SPECIFICATIONS AS FOLLOWS:

Add the following subsection:

710.5.7 Chloride Penetration Resistance

(1) For each new or changed mix design, measure chloride penetration resistance according to AASHTO T 259 (Salt Ponding Test)

(2) For each new or changed mix design, measure chloride penetration resistance according to AASHTO T 277 (Rapid Chloride Permeability Test) at a frequency of 1 test per 3 months (quarterly) of production.

(3) Permeability samples for AASHTO T 277 testing must be stripped of their molds and wet cured to an age of 7 days in a standard moist room or water tank. After 7 days, submerge the samples in water heated to 100° F until an age of 28 days. Upon completion of the curing process, obtain one sample from each cylinder and test according to AASHTO T 277.

(4) Ensure that the initial accepted mix designs meet the chloride penetration resistance limit of 1500 coulombs based on the AASHTO T 277 Rapid Chloride Permeability test. Chloride resistance testing conducted quarterly using AASHTO T 277 Rapid Chloride Permeability Test during production will not be used for acceptance of previously accepted mixes and concrete masonry mixed and placed according to the contract requirements. For quarterly chloride resistance test results exceeding 1500 coulombs, the department may require adjustment of the concrete mix going forward to improve the chloride penetration resistance.

MODIFY SECTION 715 OF THE STANDARD SPECIFICATIONS AS FOLLOWS:

715.2.3.2 Structures

Replace paragraph two with the following:

(2) Provide a minimum cementitious content of 540 pounds per cubic yard and a maximum cementitious content of 600 pounds per cubic yard. For all superstructure and substructure concrete, unless the engineer approves otherwise in writing, conform to one of the following:

1. Use class C fly ash or grade 100 or 120 slag as a partial replacement for Portland cement. For binary mixes use 15% to 30% fly ash or 20% to 30% slag. For ternary mixes use 15% to 30% fly ash plus slag in combination. Percentages are stated as percent by weight of the total cementitious material in the mix.
2. Use a type IP, IS, or I(SM) blended cement.

Add the following subsection:

715.2.3.3 Trial Mixes

(1) Develop and test each mix to be used for HPC Masonry Structures. Produce a laboratory trial mix for each mix, as well as a trial mix from each plant used to supply the project. Test all mixes at a department-qualified laboratory.

(2) The laboratory trial mix data must include the results of the following tests:

1. AASHTO T 119 Slump of Hydraulic Cement Concrete.
2. AASHTO T 121 Mass per Cubic Foot, Yield
3. AASHTO T 152 Air Content.
4. AASHTO T 22 Compressive Strength.
5. AASHTO T 277 Rapid Determination of the Chloride Permeability of Concrete, using the modified curing procedure according to 710.5.7(3) herein.
6. AASHTO T 309 Temperature.
7. Water Cement Ratio.

(3) The 28-day compressive strength must be greater than or equal to 4000 psi. The 28-day results of the permeability test must be less than or equal to 1500 coulombs.

715.5.3 Structures

Replace standard spec 715.5.3 with the following:

(1) The department will adjust pay for each lot using equation "QMP 2.03" as follows:

Percent within Limits (PWL)	Pay Adjustment [1] (dollars per cubic yard)
≥ 90 to 100	0
≥ 50 to < 90	(7/8 x PWL) – 78.75
< 50	-35

(2) For lots with less than four sublots, the department will assess a disincentive based on the individual sublot average strengths. The department will reduce pay for sublots with an average strength below 4000 psi by $35 per cubic yard.

(NER41-20120313)

12.11 Pile Dynamic Analyzer (PDA) Testing, Item SPV.0060.700; Pile Dynamic Analyzer (PDA) Restriking, Item SPV.0060.701, CAse Pile Wave Analysis Program (CAPWAP) Evaluation, Item SPV.0060.702.

A Description

The items consist of providing Pile Dynamic Analyzer (PDA) load testing and analyses/evaluation, as outlined in the contract plans and this special provision. This Dynamic Pile Load Testing is being done to set pile resistance criteria. Production piles will be driven in accordance to pile resistance criteria produced by the contractor after PDA testing and evaluation is completed at each substructure unit. PDA Restrikes will be completed as described in this special provision, or as directed by the engineer.

The piles and pile driving will be paid for under the standard spec 550 for piles and pile driving. This applies to both piles installed using the PDA criteria and for production piles installed using the criteria developed by the contractor from the PDA installations.

Data collected during the testing described herein will form the basis for the final driving criteria to be applied to production piles in the substructure unit under consideration. Submit to the engineer the name and qualifications of the person(s) completing this work. Provide documentation that the person(s) completing this work have successfully completed at least 5 PDA testing projects within the last 3 years, and that these identified projects are of a scope and complexity similar to that anticipated for this project. Persons without this minimum experience will not be allowed to complete work on this project. Also submit documentation of experience with PDA equipment manufactured by Pile Dynamics, Inc. and the CAse Pile Wave Analysis Program (CAPWAP). All dynamic monitoring shall be performed using a PDA (Model PAK, PAX, or PAL). Furnish all equipment necessary for the dynamic monitoring such as sensors, cables, or wireless transmitters, etc. The equipment shall conform to the requirements of ASTM D4945. A person with a minimum of 4 years of experience and who has achieved a minimum of Advanced Level on the Foundation QA Examination for Providers of PDA Testing

Services, shall be in charge of PDA operations and of data interpretation. They shall be present on site, or by remote connection, at the time of all PDA testing.

B (Vacant)

C Construction

C.1 Test Locations

Perform dynamic pile load testing at the pile locations identified on the plans. These locations are referred to simply as 'PDA Test Piles' throughout the remainder of this specification. Piles noted as PDA Test Piles are a functional load-carrying part of the completed foundation unit, and not solely used for testing.

C.2 Driving Sequence

Perform PDA testing on the first piles installed in each substructure unit. PDA Test Piles shall be located as shown on the footing plan. No other piles in the substructure unit shall be used for PDA testing unless agreed to by the engineer. Do not drive any other piles in the unit until all required testing has been completed and the final driving criteria for that substructure unit has been determined in writing and accepted by the engineer.

C.3 Pile Driving

Drive PDA Test Piles to penetration depths and/or penetration resistances as directed by the engineer. Drive PDA Test Piles using the same methods and equipment that have been accepted for driving the production piles.

Drive PDA Test Piles to one of the following lengths:

• If the required plan driving resistance is achieved at a pile length less than plan length, stop driving the pile. Pile restrikes will be required as described in Section C6 of this special provision to document that the minimum plan required driving resistance is achieved.

• If PDA indicated pile capacity is greater than or equal to 85% of the required driving resistance, at the estimated plan length, stop driving. Pile restrikes will be required as described in Section C6 of this special provision to document that the minimum plan required driving resistance is achieved.

• If the pile resistance at plan length is less than 85% of the required driving resistance, continue to drive the pile until the resistance reaches 85% or more of the plan driving resistance. Upon achieving 85% or more, stop driving. Pile restrikes will be required as described in Section C6 of this special provision to document that the minimum plan required driving resistance is achieved.

In all cases, the required plan driving resistance will be shown either through end of initial drive data or from restrike data, as defined above.

C.4 Scheduling
Provide a written schedule to the engineer showing all required PDA Test Pile activities for the following week. Submit this schedule a minimum of 2 working days prior to the first day included in the schedule.

Multiple concurrent PDA testing and/or analyses will be allowed. Any delays to the contractors schedule due to coordination or untimeliness of PDA testing or evaluation/analyses will not be grounds for extension of contract time.

C.5 Installation Testing
Perform dynamic measurements following procedures set forth in ASTM D4945 during the driving of piles designated as PDA Test Piles.

Continuous PDA monitoring may require multiple installations of PDA testing equipment depending on the supplied pile length. If multiple piles lengths are used to produce the final installed pile, multiple PDA equipment installations will be required. With the PDA testing equipment attached, drive the pile and monitor using the PDA equipment.

C.6 Restrike Tests
Perform restrike tests on all PDA test piles as part of the initial dynamic pile load testing program as described in section C5. See restrike criteria given in section C3.

Wait a minimum of 12 hours and a maximum of 72 hours or a time period as directed by the engineer, after initial pile installation is complete; then, restrike each PDA test pile with the required dynamic testing instruments attached.

Warm the hammer before the restrike by applying at least 20 blows to a non-test pile, or by other means acceptable to the engineer.

The maximum amount of penetration required during the restrike test shall be 6 inches, or the maximum number of hammer blows required will be 30, whichever occurs first.

The pre-approved pile-driving hammer used for restrike testing shall be capable of supplying enough energy to develop a minimum of twice the required driving resistance shown on the plans.

C.7 CAPWAP Evaluation and Drive Criteria
Pile-driving criteria for each substructure unit shall be determined from dynamic pile tests conducted on the total length of each pile noted for PDA Testing in the plans. Submit the required driving resistance and the driving criteria for the production piles determined by dynamic pile testing to the engineer for acceptance for the production pile installation. Electronically submit the driving criteria and a report with the results of the CAPWAP evaluation to the engineer.

Utilize the dynamic test data to establish the following pile driving criteria: (1) a minimum driven length below cutoff level, and (2) a maximum penetration rate per 10 hammer blows for 30 consecutive blows. Drive all remaining piles in each unit in accordance to the established criteria for that unit.

Driving production piles shall continue until the required driving resistance is achieved for 30 consecutive hammer blows. Mark penetration per 10 consecutive hammer blows.

The engineer may alter driving criteria as necessary to assure development of adequate pile capacity. In any pile where pile capacity or integrity is suspect, the engineer may order PDA testing.

D Measurement

The department will measure Pile Dynamic Analyzer (PDA) Testing as each individual unit, acceptably completed, in which one unit includes all PDA-related effort on one pile during the initial driving. The department will measure Pile Dynamic Analyzer (PDA) Restrikes as each individual unit, acceptably completed, in which one unit includes all of the restrike and testing effort required on an individual pile when it is restruck. The department will measure Pile Dynamic Analyzer (PDA) / CAse Pile Wave Analysis Program (CAPWAP) Evaluation as each individual unit, acceptably completed, in which one unit includes all analyses and effort required to provide drive criteria for installation of production piles in one substructure unit.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.700	Pile Dynamic Analyzer (PDA) Testing	Each
SPV.0060.701	Pile Dynamic Analyzer (PDA) Restriking	Each
SPV.0060.702	CAse Pile Wave Analysis Program (CAPWAP) Evaluation	Each

Payment for Pile Dynamic Analyzer (PDA) Testing is full compensation for facilitating the initial dynamic pile load test on a given pile, including possible multiple sensor installations.

Payment for Pile Dynamic Analyzer (PDA) Restrikes is full compensation for facilitating and performing one restrike test on a pile, including the sensor installation, mobilization of equipment, hammer warm-up, and pile restriking.

Payment for CAse Pile Wave Analysis Program (CAPWAP) Evaluation is full compensation for providing the personnel, software and equipment to evaluate the results of the monitoring for each substructure unit for the purpose of establishing production pile driving criteria, and the electronic submittal of the driving criteria and report with the results of the CAPWAP evaluation.

12.12 Standpipe System, Item SPV.0060.703.

A Description

This special provision describes furnishing and installing a dry standpipe water delivery system on designated structures as shown on the plans and as specified herein.

B Materials

Furnish steel pipe conforming to standard spec 506.2.3.6 with a nominal inner diameter of 4-inches.

Furnish carbon steel Schedule 80 pipe meeting all requirement of ASTM A53 B with a nominal inner diameter of 4-inches. The pipe shall be rated for a minimum of 1000 pounds per square inch of working pressure at 400º F.

Furnish pre-manufactured bends and couplings as required by the plans. The bends and couplings shall be rated for a minimum of 700 pounds per square inch of working pressure.

Furnish storz couplings with locking caps as required by the plans. The storz couplings shall be rated for a minimum of 150 pounds per square inch of working pressure meeting NFPA 1963 standards for fire hose connections. Locking caps for the storz shall be Knox StorzGuard Caps, Item 5002 5" StorzGuard – Dark, Hard Anodized Aluminum keyed to a #112 key.

Steel pipe, bends, and couplings shall be painted with a corrosion resistant paint that is resistant to acids, alkalies, solvents, salts, and water. The paint color shall be Basket Beige SW 6143 (Sherwin Williams color chart) and shall be able to be field applied depending on temperature. It shall be of one component and shall not require mixing of multiple components and shall be applicable by brushing, dipping, rolling, or spraying.

Furnish steel pipe hangers and clamp assemblies for attaching and anchoring the standpipe system to the structure. Furnish stainless steel anchor brackets, clamps and fittings for anchoring stainless steel pipe. Furnish stainless steel or steel conforming to ASTM A709, Grade 36 anchor brackets, clamps and fittings for anchoring steel pipe. Blast clean and zinc coat all ASTM A 709 Grade 36 steel anchor components according to ASTM A 123. Provide stainless steel anchor bolts, structural bolts, nuts and washers conforming to standard spec 513.2.2.5 for all hanger and clamp assemblies.

C Construction

C.1 General

Install the pipe, bends, expansion devices and connectors on designated structures and in the locations shown in the plans.

Design, furnish and install a pipe anchoring system to adequately anchor the standpipes to the designated structure. Attach anchor assemblies for horizontal pipe runs located under bridge decks to the bridge deck using cast in threaded inserts, sized and spaced to accept the threaded anchor rods of the furnished anchor assemblies. Attach anchor assemblies for vertical pipe runs located along pilasters, walls, columns and pier caps using engineer-approved adhesive anchors. Space anchor assemblies along the length of pipe runs a maximum of 8 feet or as required to adequately anchor the pipe assuming it is completely filled with water and pressurized.

C.2 Painting
Submit material cut sheets, as required in these special provisions, for the paint to be applied for approval prior to applying to any materials.

Apply paint following all manufacturer recommendations for material preparation. Paint may be applied prior to delivering materials to project area. If paint is applied in project area, all manufacturer recommendations, including those regarding temperature and drying time must be observed. Upon final installation of the pipe, bends, and fittings, all materials must be touched up wherever paint has chipped or cracked.

C.3 Shop Drawings
Prepare and submit shop drawings of the entire dry standpipe system to the engineer in accordance to standard spec 506.3.2.

C.4 Testing
Test the completed installed system for water tightness to 150 pounds per square inch using a pressurized air test. The system shall be pressurized air to 125% or the equivalent water pumping pressure with an attached dial pressure gage. The system will be deemed acceptable if it maintains 95% of the specified applied air pressure after 24 hours.

If the system does not maintain 95% of the specified air pressure after 24 hours, the contractor must locate and remedy all leaks and retest until an acceptable test result is obtained. If required, the cost of repairs to satisfy the pressurized air test are included in the pay item and will be at no additional cost to the department nor will any request for contract time extension as a result of time delays for repairs and additional tests be granted.

D Measurement
The department will measure Standpipe System by each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.703	Standpipe System	Each

Payment is full compensation for furnishing and installing Standpipe System Steel Pipe; furnishing and installing all connectors bends, and Storz couplings; Knox StorzGuard Cap, Item 5002 5" StorzGuard – Hard, Anodized Aluminum with #112 key, designing, furnishing and installing pipe anchors; pressurized air acceptance testing; shop drawing preparation and submittal; and for terminating connecting the pipe to fittings.
(NER41-20121022)

12.13 Bar Steel Reinforcement HS Stainless Bridges, Item SPV.0085.700.

A Description

This work consists of furnishing and placing stainless steel reinforcing bars as shown in the plans and as hereinafter provided.

B Materials

B.1 General

Conform to standard spec 505.2 except as modified in this special provision.

B.2 Grade and Type

The material shall conform to ASTM A 955 and to one of the following Unified Numbering System (UNS) designations: S31653, S31803, S32205, or S32304.

Supply Grade 60 bars, all of the same UNS designation.

B.3 Evaluation of Corrosion Resistance

Prior to fabrication, supply test results from an independent testing agency certifying that stainless steel reinforcement from the selected UNS designation meets the requirements of Annex A1 of ASTM A955. Corrosion performance for the selected UNS designation shall be redemonstrated if the processing method is significantly altered. Removal of mill scale or pickling processes used for stainless steel reinforcement supplied under this contract shall be the same as those used to prepare the samples tested per Annex A1 of ASTM A955.

B.4 Chemical Composition

Material shall conform to that specified in ASTM A276, Table 1, Chemical Requirements, for the given UNS designation.

B.5 Heat Treatment

Bars may be furnished in one of the heat treatment conditions listed in ASTM A955, and as needed to meet the requirements of this specification.

B.6 Finish

Supply bars that are free of dirt, mill scale, oil and debris by pickling to a bright or uniform light finish. Bars supplied with a tarnished or mottled finish are sufficient cause for rejection. Fabricate and bend bars using equipment that has been thoroughly cleaned

or otherwise modified to prohibit contamination of the stainless steel from fragments of carbon steel or other contaminants.

Bars displaying rust/oxidation, questionable blemishes, or lack of a bright or uniform pickled surface are subject to rejection.

B.7 Bending and Cutting

Bend bars in accordance to standard spec 505.3.2 and ASTM A955. Use fabrication equipment and tools that will not contaminate the stainless steel with black iron particles. To prevent such contamination, equipment and tools used for fabrication, including bending and cutting, shall be solely used for working with stainless steel. Do not use carbon steel tools, chains, slings, etc. when fabricating or handling stainless steel reinforcing bars.

B.8 Control of Material

All reinforcement bars or bar bundles delivered to the project site shall be clearly identified with tags bearing the identification symbols used in the Plans. The tags shall also include the UNS designation, heat treat condition, heat number, grade (corresponding to minimum yield strength level), and sufficient identification to track each bar bundle to the appropriate Mill Test Report.

Provide samples for department testing and acceptance in accordance to the CMM requirements for Concrete Masonry Reinforcement – Bar Steel (Uncoated).

Provide Mill Test Reports (MTR) for the project that:

1. Are from the supplying mill verifying that the stainless reinforcement provided has been sampled and tested and the test results meet ASTM A 955, ASTM A 276, Table 1 and the Contract requirements;

2. Include a copy of the chemical analysis of the steel provided, with the UNS designation, the heat lot identification, and the source of the metal if obtained as ingots from another mill;

3. Include a copy of tensile strength, yield strength and elongation tests per ASTM A955 on each of the sizes of stainless steel reinforcement provided;

4. Permit positive determination that the reinforcement provided is that which the test results cover;

5. Include a statement certifying that the materials meet standard spec 106 regarding material being melted and manufactured in the United States; and

6. Certify that the bars have been pickled to a bright or uniform light finish.

C Construction

C.1 General

Conform to the construction methods in standard spec 505.3 except as modified in this special provision:

Ship, handle, store, and place the stainless steel reinforcing bars according to the applicable provisions with the following additions and exceptions:

1. Prior to shipping, ensure that all chains and steel bands will not come into direct contact with the stainless steel reinforcing bars. Place wood or other soft materials (i.e., thick cardboard) under the tie-downs. Alternatively, use nylon or polypropylene straps to secure the stainless steel reinforcing bars.

2. When bundles of reinforcing steel and stainless steel reinforcing bars must be shipped one on top of the other, load the stainless steel reinforcing bars on top. Use wooden spacers to separate the two materials. Space supports sufficiently close to prevent sags in the bundles.

3. Outside storage of stainless steel reinforcing bars is acceptable. Cover the stainless steel reinforcing bars with tarpaulins.

4. Store stainless steel reinforcing bars off the ground or shop floor on wooden supports and separately from carbon steel reinforcement. Space supports sufficiently close to prevent sags in the bundles.

5. Do not use carbon steel tools, chains, slings, etc. when fabricating or handling stainless steel reinforcing bars. Only use nylon or polypropylene slings. Protect from contamination during construction operations including any cutting, grinding, or welding above or in the vicinity of the stainless steel bars. Flame cutting or welding of stainless steel reinforcing bars is prohibited.

6. Place all stainless steel reinforcing bars on bar chairs that are solid plastic or stainless steel. Fabricate stainless steel metal chairs and continuous metal stainless steel supports from stainless steel conforming to the same requirements and UNS designations as stainless steel reinforcing bar as listed in Section B, “Materials”. Use stainless steel chairs with plastic-coated feet above steel beams.

7. Use stainless steel tie wires to tie stainless steel reinforcing bars. Tie wires shall conform to the same requirements and UNS designations as stainless steel reinforcing bars as listed in Section B, “Materials”, dead soft annealed, annealed at size. The tie wire does not need to be of the same UNS designation as the bar reinforcement.

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Do not tie stainless steel reinforcing bars to, or allow contact with uncoated reinforcing bars, galvanized forming hardware or attachments, or galvanized conduits. Direct contact with these materials is not acceptable. When stainless steel reinforcing bars or dowels must be near uncoated steel reinforcing bars, galvanized forming hardware, or other galvanized metals, maintain a minimum 1-inch clearance between the two metals. Where insufficient space exists to maintain this minimum, sleeve the bars with a continuous 1/8-inch minimum thickness polyethylene or nylon tube extending at least 1 inch in each direction past the point of closest contact between the two dissimilar bars and bind them with nylon or polypropylene cable ties. Sleeves are not required between stainless steel reinforcing bars and welded girder shear studs. Stainless steel reinforcing bars are allowed to be in direct contact with undamaged epoxy-coated reinforcing bars.

Uncoated fasteners (such as used for static safety lines on beams), anchors, lifting loops, etc., that extend from the top flange of prestressed concrete beams into the bridge deck shall be completely removed or cut off flush with the top flange of the beam prior to casting the deck.

C.2 Splices

Splices shall be as shown in the plans. Substitution of stainless steel mechanical splices in lieu of lap slices shown on the plans may be permitted in certain situations subject to written approval by the engineer. Provide mechanical splices for stainless steel reinforcing bars made of stainless steel conforming to one of the UNS designations listed in section B, "Materials" and meeting the minimum capacity, certification, proof testing and written approval requirements of standard spec 550.3.3.4.

If it is necessary or the contractor elects to increase or alter the number or type of bar splices from those indicated in the plans, provide copies of plan sheets to the engineer showing the revised reinforcement layout, type, length and location of revised bar splices and revised bar lengths. The engineer must approve the location of new lap splices or substitution of mechanical bar couplers in lieu of bar lap splices prior to fabrication. New lap splices must be at least as long as those shown in the plans.

D Measurement

The department will measure Bar Steel Reinforcement HS Stainless Bridges by the pound acceptably completed. The department will compute the stainless steel bar weight using the standard weight per foot of equivalent size carbon steel reinforcing bars (ASTM A615) regardless of which stainless steel alloy is provided.

If the contractor is permitted to alter the reinforcement layout per C.2, no adjustment to the reinforcement bar quantity will be made for such alterations. Mechanical bar couplers that are provided but not shown in the plans are included in the item Bar Steel Reinforcement HS Stainless Bridges and will not be measured separately.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0085.700	Bar Steel Reinforcement HS Stainless Bridges	LB

Payment is full compensation for providing, transporting and placing the stainless steel reinforcing bars with all component materials as described above.

If the contractor is permitted to alter the reinforcement layout per C.2, no additional compensation will be made for such alterations. Mechanical bar couplers that are provided, but not shown in the plans are included in the item Bar Steel Reinforcement HS Stainless Bridges and will not be paid for separately.

12.14 Downspout RTRP 6-Inch, Item SPV.0090.700; 8-Inch, Item SPV.0090.702.

A Description

This special provision describes furnishing and installing bridge downspouts in accordance to standard spec 514, as shown on the plans, and as hereinafter provided.

B Material

Provide materials conforming to standard spec 514.2 except as modified hereinafter.

Furnish downspouts and fittings constructed of Reinforced Thermosetting Resin Piping (RTRP). Steel pipe is not allowed for downspouts and fittings.

Furnish one, 2-foot long flexible downspout connector for each deck drain as shown on the plan.

C Construction

Construct in accordance to the pertinent requirements of standard spec 514.3.4.

Pigment inject all RTRP downspouts and fittings to match with the steel girder paint color, according to Sherwin Williams Virtual Taupe (SW7039).

Provide the engineer with a sample of the pigment injected downspout prior to installation.

Secure one end of the flexible downspout connector to the end of the downspout and the other end of the flexible connector to either the drop pipe protruding from the abutment slope paving or to the drop pipe protruding from the pier reveal such that it may be removed for future maintenance.

D Measurement
The department will measure Downspout 6-Inch by the linear foot, acceptably completed, in accordance to standard spec 514.4(4).

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.700	Downspout RTRP 6-Inch	LF
SPV.0090.702	Downspout RTRP 8-Inch	LF

Payment will be made in accordance to standard spec 514.5(5).

12.15 Pedestrian Railing, Item SPV. 0090.011; Railing Steel Type C4 Galvanized Pedestrian B-05-682, Item SPV.0090.701.

A Description
This special provision describes work consisting of fabricating, painting, delivering and installing railings on top of bridge, retaining walls, and in areas adjacent the multi-purpose path as shown in plans and hereinafter provided.

B Materials
B.1 General
Provide materials meetings the requirements as shown on the plans and the applicable sections of the standard specifications as follows:

Welding Materials	Standard spec 506.2.3.11
Steel Railings	Standard spec 505.2.5
Painting:	Standard specs 517.2 and 517.3

Prior to fabrication, blast clean steel per SSPC-SP 6 and galvanize steel according to ASTM A 123. Repair zinc coating damaged during fabrication as specified in standad spec 635.3.4. Grind the welded joints to a smooth finish where shown in the plans.

Steel preparation includes the chamfering of sharp edges. Flatten all sharp edges by a single pass of a grinder or suitable device along the sharp edge. Condition any thermal cut edges to be painted before blast cleaning by shallow grinding or other cleaning to remove any hardened surface layer. Remove all evident steel defects exposed in accordance to AASHTO M 160 prior to blast cleaning.

Epoxy paint coating system shall be in accordance to epoxy paint coating system for structural steel, as shown on the department's approved list.

B.2 Painting

Clean all galvanizing surfaces per SSPC-SP1 to remove, chlorides, sulfates zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface should then be Brush Blast Cleaned per SSPC-SP7 to create a slight angular surface profile (1.0 – 1.5 mils suggested) for adhesion. Blasting should not fracture the galvanized finish or remove any dry film thickness.

After cleaning, provide a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface. The tie coat shall etch the galvanized rail and prepare the surface for the top coat. Apply a top coat matching the specified color. The tie and top coats should be of contrasting colors. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. The various decorative fence components shall be painted with the tie and top coats before final assembly of the fence panels. Care should be taken to not damage the painted surface during panel assembly or fence installation.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams 1051 Permeter Drive, Suite 710 Schaumburg, IL 60173 (847) 330-1562	Tie	Recoatable Epoxy Primer B67-5 Series/B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane , B65-650	2.0 to 4.0	NA
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644-1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Top	Carboline 133 LH	4	NA
Wasser Corporation 4118 B Place NW Suite B Aubum, WA 98001	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

B.2 Color

Provide a finished color for the coating system for railing matching Federal Color 27038, semi-gloss black.

C Construction

Provide shop drawings in accordance to the requirements of standard spec 506.3.2. Shop drawings shall contain material sizes and types, weld sizes and locations, and all necessary details, dimensions, and information to allow fabrication of the fence in conformance with the requirements of the contract. Do not begin fabrication prior to shop drawing review and acceptance by the engineer.

During construction and at the time of delivery the engineer will inspect the railing sections for proper fabrication and painting. The engineer will accept the product after the delivery is unloaded on the site. After the product is unloaded, the installation contractor shall signify in writing that the railing was received in acceptable condition per the engineer's inspection. Any damage to the railing after the acceptable delivery will be the responsibility of the installation contractor.

Complete all welding in accordance to the applicable requirements of standard spec 506. No field welding, field cutting, or drilling will be permitted without the approval of the engineer.

Take special care during construction to minimize the number and size of touch-up spots. Follow the manufacturer's recommendations for damaged area repairs. The engineer will approve the field paint appearance prior to final acceptance.

Provide the engineer with the name, address, and phone number of a representative of the railing fabricator for coordination.

During handling, protect finish coating from damage. If damaged during handling the railing may be rejected by the engineer or engineer may direct fabricator that the finish shall be repaired in accordance to the manufacturer's recommendations.

D Measurement

The department will measure Pedestrian Railing and Railing Steel Type C4 Galvanized Pedestrian B-05-682, by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.011	Pedestrian Railing	LF
SPV.0090.701	Railing Steel Type C4 Galvanized Pedestrian B-05-682	LF

Payment is full compensation for furnishing and installing railing, masonry anchor bolts, concrete setting base.

(NER41-20110317)

12.16 Connecting Existing Downspout to Storm Sewer, Item SPV.0105.008.

A Description

This special provision describes constructing a downspout connection from Structure B-05-671 to the storm sewer, in accordance to standard spec 607, as shown on the plan, and as hereinafter provided.

B Materials

Furnish pipe and fittings that meet the requirements for Polyvinyl Chloride (PVC) Sewer Pipe (SDR 35) as set forth in ASTM Designation D-3034.

C Construction

Construct in accordance to the requirements of standard spec 607.3 and as shown on the plans.

D Measurement

The department will measure Connecting Existing Downspout to Storm Sewer as a single lump sum unit of work, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.008	Connecting Existing Downspout to Storm Sewer	LS

Payment is full compensation for furnishing all materials including elbows, cleanouts and any connections; for laying pipe; for connecting to inlets; for backfilling; and for furnishing granular backfill material.

12.17 Overhead Sign Support Black Finish Structure S-05-256, Item SPV.0105.950; S-05-257, Item SPV.0105.951; S-05-261, Item SPV.0105.952; S-05-262 Item SPV.0105.953.

A Description

This special provision describes providing, fabricating, painting and erecting overhead sign supports in accordance to standard spec 641, as shown on the plans and as hereinafter provided.

B Materials

B.1 Sign Supports

Provide galvanized steel for the overhead sign supports in accordance to standard spec 641.

B.2 Paint

All galvanizing surfaces shall be cleaned per SSPC-SP1 to remove, chlorides, sulfates zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface should then be Brush Blast Cleaned per SSPC-SP7 to create a slight angular surface profile (1.0 – 1.5 mils suggested) for adhesion. Blasting should not fracture the galvanized finish or remove any dry film thickness.

After cleaning provide a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface. The tie coat shall etch the galvanized steel and prepare the surface for the top coat. Apply a top coat matching the specified color. The tie and top coats should be of contrasting colors. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. The various overhead sign support components shall be painted with the tie and top coats before final assembly of the overhead sign supports. Care should be taken to not damage the painted surface during assembly or overhead sign support installation.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams 1051 Permeter Drive, Suite 710 Schaumburg, IL 60173 (847) 330-1562	Tie	Recoatable Epoxy Primer B67-5 Series/B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane , B65-650	2.0 to 4.0	NA
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644-1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Top	Carboline 133 LH	4	NA
Wasser Corporation 4118 B Place NW Suite B Aubum, WA 98001	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

B.3 Color
The finished color for coating system for the overhead sign shall match Federal Color 27038, semi-gloss black.

C Construction
Construction methods for the overhead sign supports shall be in accordance to standard spec 641.

During construction and at the time of delivery the engineer shall inspect the overhead sign support components. The engineer shall accept the product after the delivery is unloaded on the site. After the product is unloaded, the installation contractor will signify in writing that the overhead sign support was received in acceptable condition per the engineer's inspection. Any damage to the overhead sign support after the acceptable delivery will be the responsibility of the installation contractor.

Take special care during construction to minimize the number and size of touch-up spots. Follow the manufacturer's recommendations for damaged area repairs. The engineer must approve the field paint appearance prior to final acceptance.

During handling, protect finish coating from damage. If damaged during handling, the overhead sign support may be rejected by the engineer or engineer may direct fabricator that the finish shall be repaired in accordance to the manufacturer's recommendations.

D Measurement
The department will measure Overhead Sign Support Black Finish (Structure), completed in accordance to the contract and accepted, as a single complete lump sum unit of work.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.950	Overhead Sign Support Black Finish Structure S-05-256	LS
SPV.0105.951	Overhead Sign Support Black Finish Structure S-05-257	LS
SPV.0105.952	Overhead Sign Support Black Finish Structure S-05-261	LS
SPV.0105.953	Overhead Sign Support Black Finish Structure S-05-262	LS

Payment is full compensation for designing the overhead sign support; for excavating; for providing all materials, including anchor bolts, pole shafts, mast arms, paint, required reinforcing steel, and concrete; for fabricating, including all cutting, preparing, welding, zinc coating and painting; for placing and curing concrete supports; and for transporting and erecting. Signs and the sign mounting system are paid for separately as specified in standard spec 637.

12.18 Architectural Surface Treatment, Item SPV.0165.700.

A Description

This special provision describes constructing a concrete masonry architectural surface treatment on the exposed concrete surfaces of cast in place structures, mechanically stabilized earth retaining walls and precast wall panels as detailed in the plans, and as hereinafter provided.

B Materials

Use reusable form liners that are made of highway strength urethane or lightweight one time use elastomeric foam form liners that attach easily to the forming system, and do not compress more than 1/4-inch when poured at a rate of 10 vertical feet/hour.

Formliner shall have a “used brick” running bond pattern with individual “brick” dimensions of 2 ¼ inches to 2 3/8 inches by 7 5/8 inches to 8 inches. Maximum relief of the brick formliner shall be 1/2”.

Use a release agent that is compatible with the form liner and coloring materials.

Wall ties shall have set "break-backs" at a minimum of ¾-inches from the finished concrete surface.

C Construction

C.1 Form Liner

Supply new form liner or reusable form liner with a used brick pattern. If reusable form liner is used, clean the form liner prior to each pour and ensure that it is free of any build-up. Visually inspect each liner for blemishes or tears, and repair if necessary per manufacturer's recommendations.

Apply form release per manufacturer's recommendations.

C.3 Form Liner Attachment

Attach liner securely to forms in accordance to manufacturer's recommendations to maintain a continuous running bond pattern, and coordinate wall ties with form liner and form manufacturer, e.g., diameter, size, and frequency where applicable.

C.4 Test Panel

Prepare and deliver to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303), a 4 foot by 4 foot concrete test panel utilizing the running bond brick form liner so the engineer will be able to evaluate the adequacy of the product and the forming methods to yield the desired results.

The engineer shall inspect condition of the Brick test panel and its dimensional quality. All voids and irregularities shall be repaired using the same methods as on the final structures. The engineer will evaluate the test panel for definition and consistency. If the

test panel is accepted the workmanship becomes the standard for the balance of the contractors work and incorporation into the final structures.

If the test panel is not accepted, the contractor shall prepare another test panel and repeat the process, using either a different product or different methods. This procedure shall be repeated until the test panel is accepted by the engineer.

C.5 Surface Finishing
Grind or fill pouring blemishes.

D Measurement
The department will measure Architectural Surface Treatment by the square foot, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.700	Architectural Surface Treatment	SF

Payment is full compensation for creating and providing formliners; for forming and pouring a test panel on site; producing the proposed architectural surface treatment; finishing and protecting the surface treatment; and for properly disposing of surplus material and test panel.
(NER41-20120214)

12.19 Staining Concrete, Item SPV.0165.701.

A Description
Furnish and apply a two coat concrete stain to the exposed concrete surfaces of structures and retaining walls as detailed in the plans, and as hereinafter provided.

B Materials
B.1 Mortar
On pertinent surfaces, use mortar for sack rubbing the concrete surfaces as given in standard spec 502.3.7.5 or use of the following products:

Preblended, Packaged Type II Cement:	Tri-Mix by TK Products
	Thoroseal Pearl Grey by Thoro Products

The mortar shall contain one of the following Acrylic Bonding Admixtures mixed and applied as given by the manufacturer:

Acrylic Bonding Admixture:	TK-225 by TK Products
	Achro 60 by Thoro Products
	Achro Set by Master Builders

B.2 Concrete Stain

Use concrete stain manufactured for use on exterior concrete surfaces, consisting of a base coat and a pigments sealer finish coat. Use the following products, or equal as approved by the department, as part of the two-coat finish system:

Tri-Sheen Concrete Surfacer, smooth by TK Products
Tri-Sheen Acrylic by TK Products
*TK-1450 Urethane Anti-Graffiti Primer by TK Products
TK-5272 Tri-Sheen Pigmented Stain
Safe-Cure and Seal EPX by Chem Masters
H + C Shield Plus Ultra by Sherwin Williams
B-97 Series Concrete Sealer by Sherwin Williams
B-97-200 Series Concrete Stain by Sherwin Williams
(*Natural Look)

C Construction

Furnish, prepare, apply, cure and store all materials according to product manufacture directions specified for the type and condition of application required.

Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining.

C.1 Preparation of Concrete Surfaces

On pertinent surfaces, provide a sack rubbed finish as given in standard spec 502.3.7.5 using mortar as indicated above, on concrete surfaces with open voids or honeycombing. Fill all voids larger than ¾" diameter and finish to match surface pattern.

Prior to staining, clean all concrete surfaces to be stained to ensure that the surface is free of all laitance, dirt, dust, grease efflorescence, and any foreign material in order to accept the stain according to product requirements. At a minimum, the cleaning should consist of a 3000 psi water blast. Hold the nozzle of the water blaster approximately 6" from the concrete surface and move it continuously in a sweeping motion. Give special attention to smooth concrete surfaces to produce an acceptable surface texture. Correct any surface problems resulting from the surface preparation methods. Grit blasting of the concrete surface is not allowed.

C.2 Staining Concrete Surfaces

Apply the stain in strict conformance with product manufacture requirements.

Apply the concrete stain when the temperature of the concrete surface is 45 degrees F or higher, or as given by the manufacturer.

The final color of the concrete following application of the stain system shall match the Sherwin Williams Color system. Sherwin Williams Color designation is for color only; all colors shall be a flat (lusterless) finish.

Base Color	Basket Beige – SW 6143
Accent Color 1	Virtual Taupe – SW 7039
Accent Color 2	Roycroft Copper Red – SW 2839
Accent Color 3	Rookwood Terra Cotta – SW 2803
Accent Color 4	Cajun Red – SW 0008
Accent Color 5	Meadow Lark – SW 7522
Accent Color 6	Black - SW 6258

Do not begin the staining the structure until adjacent operations are completed to a point where this work can begin without receiving damage. Where this work is adjacent to exposed soil or pavement areas, provide temporary covering protection from overspray or splatter.

C.3 Test Areas
Prior to applying the stain to the structure, test applications shall be required on sample panels measuring 4-foot by 4-foot, and constructed to demonstrate workmanship in the use of the form liner reveals, protrusions and lettering on the structures. Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining. Prepare the concrete surfaces of the sample panels and apply stain using the same materials and in the same manner as proposed for the structure, including staining of the joints between stones produced by the form liner if applicable. Do not apply the stain to the structure until the department approves the test panels. Deliver test panels to the USH 41 field office at 1940 Mason Street, Green Bay, WI 54303.

C.4 Surfaces to be Coated
Apply the concrete stain to the surfaces as shown on the plan.

D Measurement
The department will measure Staining Concrete by the square foot, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.701	Staining Concrete	SF

Payment is full compensation for furnishing and applying the two-coat system; and for preparing the concrete surface and sample panels.
(NER41-20120917)

12.20 Staining Concrete Brick, Item SPV.0165.702.

A Description
Furnish and apply a single coat concrete stain to the concrete surfaces of structures that have the running brick pattern as detailed in the plans, and as hereinafter provided.

B Materials

B.1 Concrete Stain

Use concrete stain manufactured for use on exterior concrete surfaces.. Use the following products, or equal as approved by the department, as part of the finish system:

Tri-Sheen Acrylic by TK Products
TK-5272 Tri-Sheen Pigmented Stain
B-97-200 Series Concrete Stain by Sherwin Williams
(*Natural Look)

C Construction

Furnish, prepare, apply, cure and store all materials according to product manufacture directions specified for the type and condition of application required.

Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining.

C.1 Preparation of Concrete Surfaces

Surfaces shall have the base color already applied before staining of the "brick areas can be completed. If the "brick" surface has not been coated with the base color do not apply the stain to the "brick" areas.

Prior to staining the "brick" areas, make sure all areas stained with the base color are clean and dry.

C.2 Staining Concrete Surfaces

Apply the stain in strict conformance with product manufacture requirements.

Apply the concrete stain when the temperature of the concrete surface is 45 degrees F or higher, or as given by the manufacturer.

The final color of the concrete following application of the stain system shall match the Sherwin Williams Color system. Sherwin Williams Color designation is for color only; all colors shall be a flat (lusterless) finish.

Accent Color 3	Rookwood Terra Cotta – SW 2803
Accent Color 4	Cajun Red – SW 0008
Accent Color 5	Meadow Lark – SW 7522

Brick surfaces shall be stained in a randomly mixed color arrangement Stain 70% of the "brick" surface with Accent Color 3, 15% with Accent Color 4 and 15% with Accent Color 5. Leave all previously stained recessed "mortar" joints as the Base Color (Basket Beige).

Do not begin the staining the structure until adjacent operations are completed to a point where this work can begin without receiving damage. Where this work is adjacent to exposed soil or pavement areas, provide temporary covering protection from overspray or splatter.

C.3 Test Areas
Prior to applying the stain to the structure, test applications shall be required on sample panels measuring 4 foot by 4 foot to demonstrate stain application and color mix. Test panels shall be delivered to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303). Prepare the concrete surfaces of the sample panels and apply stain using the same materials and in the same manner as proposed for the structure. Do not apply the stain to the structure until the department approves the test panels.

C.4 Surfaces to be Coated
Apply the concrete stain to the "brick" formlined surfaces as shown on the plan.

D Measurement
The department will measure Staining Concrete Brick by the square foot, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.702	Staining Concrete Brick	SF

Payment is full compensation for furnishing and applying the two-coat system; and for preparing the concrete surface and sample panels.
(NER41-20111018)

12.21 Longitudinal Grooving Bridge Deck, Item SPV.0165.703.

A Description
Provide longitudinal deck grooves parallel to the centerline of the roadway prior to opening the bridge to traffic as directed by the engineer.

B Materials
The grooving machine shall contain blades mounted on a multi-blade arbor on a self-propelled machine built for grooving hardened concrete surfaces.

The grooving machine shall have a depth control device that detects variations in the deck surface and adjusts the cutting head height to maintain a specified depth of groove.

The grooving machine shall have a guide device to control multi-pass alignment.

C Construction

Perform longitudinal grooving operation in a manner to preclude any damage to the concrete deck surface.

Longitudinal grooving operation shall result in a uniformly grooved deck surface.

Cut grooves continuously across the deck width to within 18 inches of the barrier rail, curb line, or median divider. If metal floor drains extend more than 18 inches from the barrier rail, curb line, or median divider, all grooves on the bridge deck surface are to end within 6 inches of the floor drain perimeter.

At skewed metal edged expansion joints in the bridge deck surface, all grooves on the bridge deck surface are to end within 6 inches of the joint leaving no ungrooved surface adjacent to each side of the joint greater than 6 inches in width on the deck side of the expansion joints.

Produce grooves that are continuous across construction joints or other joints in the concrete deck surface less than ½-inch wide.

Grooves shall be 1/8-inch wide and 3/16-inch deep. The longitudinal groove shall be spaced at ¾ inches center-to-center. Tolerance for groove width shall be +1/16 inch to -0 inch. Tolerance for groove depth shall be ± 1/16 inch. Tolerance for groove spacing shall be ± 1/16 inch.

Collect, remove and dispose of solid material residue and liquid waste resulting from grooving operations by vacuuming in a manner satisfactory to the engineer.

D Measurement

The department will measure Longitudinal Grooving Bridge Deck by the square foot, acceptably completed. The quantity will be determined by multiplying the grooved width by the total length grooved.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.703	Longitudinal Grooving Bridge Deck	SF

Payment is full compensation for providing the required machinery and operators; and for grooving, for collecting, removing and properly disposing of all waste materials.

SEF Rev. 091124
(NER41-20091124)

12.22 Temporary Shoring Railroad B-05-673, Item SPV.0165.704.

A Description

This special provision describes furnishing and installing temporary shoring at locations alongside railroad tracks as shown in the plan and in accordance to the shoring design requirements.

B Materials

B.1 Shoring Design

Provide an effective shoring system capable of withstanding Coopers E-80 live load surcharge, and which is in compliance with OSHA and Federal Railroad Administration (FRA) requirements.

Refer to standard specs 107.17(6) and (7) regarding the development and submittal of shop drawings, detailed plans, and computations for temporary construction near the tracks of Wisconsin Central Ltd. (d.b.a. Canadian National). Include in the submitted drawings and plans the proposed method of installation and removal of the shoring not included in the contract plans. In all calculations, take into consideration railroad surcharge loading and design the shoring to meet Coopers E-80 live loading.

C Construction

The Wisconsin Central Ltd. will coordinate train operations with the contractor to the extent possible, consistent with its operational requirements. The number and duration of work windows free of train operations available per day will vary depending on operational requirements. At the end of each window, leave the construction area in a condition that will allow for safe and normal train operations. Do not leave shoring extended above the top of rail within 12'-0" from the centerline of the nearest track. Train operations and available windows for work and hours available for work within windows are subject to change. Contact Jackie Macewicz, Manager Public Works, 1625 Depot St., Stevens Point, WI, 54481, TELEPHONE (715) 345-2503, FAX (715) 345-2534, email jackie.macewicz@cn.ca, at least three working days in advance of construction operations that require implementation of the temporary shoring.

Provide, install and maintain adequate protection for people within the right-of-way of Wisconsin Central Ltd. Cover, guard, and/or protect all excavations, holes, or trenches within the Wisconsin Central Ltd's right-of-way when they are not being worked on. When leaving work site areas at night and over weekends, secure the areas and leave them in a condition that will ensure that railroad employees and other personnel, who may be working or passing through the area, are protected around excavations. Install handrails that are parallel to the track and not less than 9'-0" from the centerline of the nearest track. Handrails, fences, or other barrier methods must meet OSHA and FRA requirements. Backfill all excavations as soon as possible.

Upon completion of the need for the temporary shoring, remove the shoring or cut-off the shoring 4'-6" below the top of the adjacent rail. Backfill the space that is excavated but not occupied by the new permanent construction in accordance to standard spec 206.3.13.

D Measurement
The department will measure Temporary Shoring Railroad (Structure) in area by the square foot, acceptably completed, and the quantity to be paid for will be the sum of the areas of exposed faces of shoring constructed at the locations shown on the plans. Area will be determined from measurements taken in the plane of the exposed face of the shoring.

E Payment
The department will pay for the measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.704	Temporary Shoring Railroad B-05-673	SF

Payment is full compensation for providing a verified design of the shoring; providing shop drawings and detailed plans; furnishing and hauling materials to each location; installing the shoring; maintaining the shoring as needed; removing the shoring; backfilling upon completion of the need for the shoring.

Temporary Shoring Railroad not required by the plans and installed for the convenience of the contractor's operations shall be considered incidental to work under this contract and will not be measured and paid for under this item.

12.23 Architectural Surface Treatment, Special, Item SPV.0165.708.

A Description
This special provision describes constructing a custom design concrete masonry architectural surface treatment on the exposed vertical concrete surfaces of cast in place structures, mechanically stabilized earth retaining walls and precast wall panels as detailed in the plans, and as hereinafter provided.

B Materials
Use one time use form liners of urethane or elastomeric foam that attach easily to the forming system and do not compress more than 1/4-inch when poured at a rate of 10 vertical feet/hour.

Formliner shall have the custom designs and relief as indicated in the plans.

Use a release agent that is compatible with the form liner and coloring materials.

Wall ties shall have set "break-backs" at a minimum of ¾-inches from the finished concrete surface.

C Construction

C.1 Form Liner

Supply new form liner for each custom design. Visually inspect each liner for blemishes, tears, or indentations and repair such imperfections before use. At pier supply two sets of forms one for each face of the pier. The cattails should be blowing downstream.

Contractor shall provide engineer with the name, address, and phone number of the formliner fabricator for future coordination.

Electronic files of custom formliners may be obtained by contacting:

Eric Gwidt
(414) 897-3867
Eric.Gwidt@dot.wi.gov

C.3 Form Liner Attachment

Attach liner securely to forms in accordance to manufacturer's recommendations to maintain a continuous pattern between panels, and coordinate wall ties with form liner and form manufacturer, e.g., diameter, size, and frequency where applicable.
Apply form release per manufacturer's recommendations.

C.4 Test Panel

Prepare and deliver to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303), a 4 foot by 4 foot concrete test panel utilizing a portion of the design form so the engineer will be able to evaluate the adequacy of the product and the forming methods to yield the desired results.

The engineer shall inspect condition of the test panel and its dimensional quality. All voids and irregularities shall be repaired using the same methods as on the final structures. The engineer will evaluate the test panel for definition and consistency. If the test panel is accepted the workmanship becomes the standard for the balance of the contractors work and incorporation into the final structures.

If the test panel is not accepted, the contractor shall prepare another test panel and repeat the process, using either a different product or different methods. This procedure shall be repeated until the test panel is accepted by the engineer.

C.5 Surface Finishing

Grind or fill pouring blemishes.

D Measurement

The department will measure Architectural Surface Treatment, Special by the square foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.708	Architectural Surface Treatment, Special	SF

Payment is full compensation for manufacturing and furnishing formliners; for forming and pouring a test panel; producing the proposed architectural surface treatment on the specified vertical concrete surfaces; finishing and protecting the surface treatment; and for properly disposing of surplus material.

13. Retaining Walls, Ground Support.

13.1 Wall Wire Faced Mechanically Stabilized Earth LRFD/QMP Pilot, Item SPV.0165.850.

A Description

This special provision describes designing, furnishing materials and erecting a permanent earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the wall and all wall components shall be 75 years minimum.

This special provision describes the quality management program (QMP) for MSE walls. A quality management program is defined as all activities, including process control, inspection, sampling and testing, and necessary adjustments in the process that are related to the construction of the MSE wall, which meets all the requirements of this provision.

This special provision describes contractor quality control (QC) sampling and testing for backfill density testing, documenting those results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm

B Materials

B.1 Proprietary Wire Faced Mechanically Stabilized Earth Wall Systems

The supplied wall system must be from the department's approved list of Wire Faced Mechanically Stabilized Earth Wall systems (Wire Faced MSE Walls).

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Design Section. The department maintains a list of pre-approved Wire Faced Mechanically Stabilized Earth (Wire Faced MSE) Wall systems. The name of the pre-approved proprietary wall system selected shall be furnished to the engineer within 25 days after the award of contract.

To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision. Applications for pre-approval may be submitted at any time. Applications must be prepared in accordance to the requirements of Chapter 14 of the department's current LRFD Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Design Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision for review by the department to show the proposed wall design is in compliance with the design specifications. Four copies of the following shall be submitted to the engineer for review and acceptance no later than 60 days from the date of notification to proceed with the project.

The plans and shop drawings shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans, shop drawings, and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Wire Faced MSE Walls shall be in compliance with the *AASHTO LRFD Bridge Design Specifications 5th Edition 2010*, (AASHTO LRFD) with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current *Standard Specifications for Highway and Structure Construction* (Standard Specifications), Chapter 14 of the WisDOT LRFD Bridge Manual and standard engineering design procedures as determined by the department. Loads, load combinations, load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined in accordance to Table 11.5.6-1 LRFD.

Design and construct the walls in accordance to the lines, grades, heights and dimensions shown on the plans, as herein specified, and as directed by the engineer. If the wall is installed in front of a bridge abutment or wing, it shall also be designed to resist the applied abutment/bridge lateral forces specified on the contract plans.

Walls parallel to supporting highway traffic shall be designed for the effects of highway surcharge loading equivalent of 2 feet soil surcharge weight or 240 psf. The design shall also consider the traffic barrier impact where applicable. Walls that do not carry highway traffic shall be designed for a live load surcharge of 100 psf in accordance to Chapter 14 of the WisDOT LRFD Bridge Manual or as stated on the plans.

A maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

An external stability check at critical wall stations showing Capacity Demand Ratios (CDR) for sliding, eccentricity, and bearing checks is performed by the department and are provided in the wall plans.

The design of the Wire Faced MSE Walls by the contractor shall consider the internal and compound stability of the wall mass in accordance to AASHTO LRFD 11.10.6. The internal stability shall include soil reinforcement pullout, soil reinforcement rupture, and panel-reinforcement connection failure at each soil reinforcement level. The design shall be performed using the Simplified Method or Coherent Gravity Method. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. Compound stability shall be computed for the applicable strength limits.

The minimum embedment of the Wire Faced MSE wall shall be 1 foot 6 inches, or as given on the contract plan. Frost depth shall not be considered. Additional embedment may be detailed by the contractor, but will not be measured for payment. The wall facings shall be designed in accordance to AASHTO 11.10.2.3. A fine metallic screen and a geotextile filter fabric shall be used at the front face of the wall to retain the fines of the soil mass.

The nominal long term design strength to be used in steel reinforcement and connector design shall consider the corrosion losses and based upon conditions at the end of the design life. The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 of the wall height or as shown on the plan. In no case shall this length be less than 8 feet. The soil reinforcement shall be the same length from the bottom to the top of each wall section. All soil reinforcement layers shall be connected to facings. The soil reinforcement shall extend 3 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be 24 inches. The uppermost layer of the reinforcement shall be located between 6” and 12” below the bottom of an overlying slab, footing or top of the wall. The upper layers of the soil reinforcement shall also be checked to verify that they have sufficient tensile resistance against traffic barrier impact where applicable.

Soil reinforcement shall be fabricated or designed to avoid piling, drainage structures or other obstacles in the fill without field modifications. Cutting or altering of the basic structural section of either the strip or grid at the site is prohibited unless approved by the Structures Design Section. A minimum clearance of 3” shall be maintained between any obstruction and reinforcement unless otherwise approved by the Structures Design Section. Splicing steel reinforcement is not allowed unless approved by the Structures Design Section.

Submit the following to the engineer for review: complete design calculations, explanatory notes, supporting materials, specifications, and detailed plans and shop drawings for the proposed wall system. Sample analyses and hand output shall be submitted to verify the output by the software. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal stabilities as defined in AASHTO LRFD.

The wall submittal package shall be submitted electronically to the engineer and the Structures Design Section. Submit all required information no later than 30 days prior to beginning construction of the wall. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls.

B.3 Wall System Components

Materials furnished for wall system components under this contract shall conform to the requirements of this specification. All certifications related to material and components of the wall systems specified in this subsection shall be submitted to the engineer.

B.3.1 Steel Components

All steel components (except the metallic screen) of permanent Wire-Faced MSE walls shall be galvanized in accordance to ASTM A-123. Provide steel reinforcement that meets the following requirements:

- Welded Wire Fabric Soil Reinforcement

Provide shop fabricated welded wire reinforcement from cold drawn steel wire that has a yield stress of 65,000 psi and conforming to the minimum requirements of ASTM A-82 and be welded into the finished configuration in accordance to ASTM A-185. A minimum galvanization coating of 2 oz/ft^2 or 3.4 mils thickness is required. Replace welded wire fabric that has been damaged during handling, placing or backfilling at the direction of the engineer, at no expense to the department.

- Steel Reinforcing Strips and Tie Strips

As an alternate to welded wire reinforcing mesh, provide steel reinforcing strips or ladder reinforcing strips or equal, hot-rolled from bars, to the required shape and dimensions meeting the requirements of ASTM A-572 Grade 65 minimum and galvanized to a minimum thickness of 3.4 mils. Tie strips shall be shop fabricated of hot-rolled steel meeting the requirements of ASTM A-1011 Grade 50.

- Welded Wire Fabric Facing Panels

Provide welded wire fabric that is used to fabricate the facings of the wire-faced wall that has a yield stress of 65,000 psi. All steel shall be shop fabricated of cold drawn steel wire conforming to the minimum requirements of ASTM A-82 and be welded into the finished configuration in accordance to ASTM A-185. Replace welded wire fabric that has been damaged during handling, placing or backfilling at the direction of the engineer, at no expense to the department.

• Fasteners

Galvanized high strength bolts meeting the requirements of AASHTO M164 or equivalent.

• Connector Pins and Mat Bars

Connector pins and mat bars fabricated from cold drawn steel wire meeting the requirements of ASTM A-82 and galvanized to according to ASTM 123 to a minimum thickness of 3.4 mils.

• Metallic Screen

Provide a stainless steel or galvanized steel metallic screen per ASTM A740. The metallic screen should have an approximate opening of ¼" and be made of 0.025" (minimum) gauge wire.

B.3.2 Geotextile Filter Fabric

Geotextile filter fabric shall be used behind the metallic screen. Use geotextile as recommended by the wall manufacturer. If none is recommended, use Type DF (schedule B) as shown in standard spec 645 or as specified on the contract plans. Deliver geotextile fabric in a protective wrap and keep it protected from ultraviolet light until it is incorporated into the work.

B.3.3 Backfill

Furnish and place backfill for Wire- Faced MSE wall as shown on the plans and as herein provided.

Provide and use material that consists of natural sand or a mixture of sand with gravel, crushed gravel or crushed stone. It shall not contain foundry sand, bottom ash, blast furnace slag, crushed/recycled concrete, crushed/milled asphaltic concrete or other potentially corrosive material.

Provide material that conforms to the following gradation requirements as per AASHTO T27.

Sieve Size	% by Weight Passing
1 inch	100
No. 40	0-60
No. 200	0-15

The material shall have a liquid limit not greater than 25, as per AASHTO T89, and a plasticity index not greater than 6, as per AASHTO T90. Provide the percent by weight, passing the #4 sieve.

In addition, backfill material shall meet the following requirements.

Test	Method	Value
pH	AASHTO T-289	5 – 10.0
Sulfate content	AASHTO T-290	200 ppm max.
Chloride content	AASHTO T-291	100 ppm max.
Electrical Resistivity	AASHTO T-288	3000 ohm/cm min.
Organic Content	AASHTO T-267	1.0% max.
Angle of Internal Friction	AASHTO T-236*	30 degrees min. (At 95.0% of maximum density and optimum moisture, per AASHTO T99, or as modified by C.1)

*If the amount of P-4 material is greater than 60%, use AASHTO 236 with a standard-size shear box. Test results of this method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

If the amount of P-4 material is less than or equal to 60%, two options are available to determine the angle of internal friction. The first method is to perform a fractured faces count, per ASTM 5821, on the R-4 material. If more than 90% of the material is fractured on one face and more than 50% is fractured on two faces, the material meets the specifications and the angle of internal friction can be assumed to be 30 degrees. The second method allows testing all P-1" material, as per AASHTO T-236, with a large shear box. Test results of this second method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

Prior to placement of the backfill, obtain and furnish to the engineer a certified report of test results that the backfill material complies with the requirements of this specification. Specify the method used to determine the angle of internal friction. This certified report of test shall be less than 6 months old. Tests will be performed by a certified independent laboratory. In addition, when backfill characteristics and/or sources change, provide a certified report of tests for the new backfill material. Additional certified report of tests (except Angle of Internal Friction test), are also required. These additional backfill tests may be completed at the time of material production or material placement, with concurrence of the engineer. If this additional testing is completed at the time of material production, complete testing for every 2,000 cubic yards of backfill or portion thereof. If this additional testing is completed at the time of material placement, complete testing for every 2,000 cubic yards of backfill, or portion thereof, used per wall. All certified report of these test results shall be less than 6 months old and performed by a certified independent laboratory.

C Construction

C.1 Methods

All excavation and preparation of the foundation for the Wire-Faced Mechanically Stabilized Earth wall shall be in accordance to standard spec 206. The volume of excavation covered is limited to the width of the reinforced mass and to the depth of the

bottom of the wall unless shown or noted otherwise on the plan. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it is should rain. Do not stockpile or store any materials or large equipment within 10 feet of the back of the wall.
Stagger vertical joints in the welded wire facing.

Compact all backfill behind the wall as specified in standard spec 207.3.6. Compact the backfill to 95.0% of maximum dry density as determined by AASHTO T-99 (modified to compute densities to the nearest 0.1 pcf) or as modified as follows. If the gradation of the granular backfill is such that the P-200 material is less than 7% and the P-40 is less than 30%, a one-point Proctor test can be conducted in place of the 5-point Proctor. To complete this one-point test compact the sample at a moisture content of 6% then compute the actual (as-tested) sample moisture after completion of the test. Use Method B or D, and perform this test without removing oversize particles and without correction for coarse particles, as per AASHTO T224. The one-point as-tested moisture content represents the optimum moisture, and the measured one-point density represents the maximum wet density of the material. From these values, the maximum dry density can be computed.

Ensure adequate moisture is present in the backfill during placement and compaction to prevent segregation and to help achieve compaction.

Compaction of backfill within 3 feet of the back face of the wall should be accomplished using lightweight compaction devices. Use of heavy compaction equipment or vehicles should be avoided within 3 feet of the wall face.

Erect welded wire facing and other associated elements according to the wall manufacturer's construction guide. Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. Place remaining courses in vertical or battered positions as shown on the contract plans.

The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill. Bending of MSE reinforcement that result in a kink in the reinforcement shall not be allowed. If skewing of the reinforcement is required due to obstruction in the reinforced fill, the maximum skew angle shall not exceed 15 degrees from the normal position unless a greater skew angle is shown on the wall shop drawings. The adequacy of the skewed reinforcement in such a case shall be addressed by supporting calculations.

When the wall is considered temporary (but will have any geotextile material exposed to ultraviolet light for four months or more), or the installation of a permanent wall facing will not occur for four months or more after placement of any geotextile material, cover the exposed geotextile material in the wall as quickly as practical, to prevent damage caused by exposure to ultraviolet light.

C.2 Tolerances
The overall vertical tolerance of the wall and the horizontal alignment tolerance shall not exceed 2 inches per 10 feet for permanent installations.

Where a cast-in-place facing or a precast concrete panel facing is installed, the overall vertical tolerance shall not exceed ±1 inch or as shown on the contract plans.

For battered wire facing, the final deviation from the design batter shall be within ±3/4 inch for each 10 feet of battered wall height.

The offset limit between consecutive rows of facing shall not exceed 1 inch.

C.3 Quality Management Program
C.3.1 Quality Control Plan
Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform MSE wall construction work before the engineer reviews and accepts the plan. Construct the project as the plan provides.

Do not change the quality control plan without the engineer's review and acceptance. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in the contractor's laboratory as changes are adopted. Ensure that the plan provides the following elements:

• An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.

• The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.

• A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.

• Descriptions of stockpiling and hauling methods.

• An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

• Location of the QC laboratory, retained sample storage, and other documentation.
A summary of the locations and calculated quantities to be tested under this provision.

C.3.2 Quality Control Personnel
Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a HTCP Grading Technician I (GRADINGTEC-I); or Assistant Certified Technician, Grading (ACT-GRADING); or Aggregate Technician I (AGGTEC-I); or Assistant Certified Technician, Aggregate

(ACT-AGG) present at the each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a HTCP Nuclear Density Technician I (NUCDENSITYTEC-I) or Assistant Certified Technician, Nucdensity (ACT-NUC) perform field density and field moisture content testing.

If an Assistant Certified Technician (ACT) is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

C.3.3 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at http://www.atwoodsystems.com/materials. Ensure that the gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to ASTM D 6938 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department

C.3.4 Quality Control (QC) Testing

Perform compaction testing on the backfill. Conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 150 cubic yards of backfill, or major portion thereof. A minimum of one test for every lift is required. Deliver documentation of all compaction testing results to the engineer at the time of testing.

Perform 1 gradation test every 750 cubic yards of fill and one 5-point Proctor test (or as modified in C.1) every 2,250 cubic yards of fill. Provide the region split samples of both within 72 hours of sampling, at the region laboratory. Test sites shall be selected using ASTM Method D3665. Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling. Generate random numbers for the gradation tests using the standard method defined in the HTCP manuals. For every three (3) gradation samples, or portion thereof, a 5-point

proctor sample will need to be taken. For determining the 5-point proctor sample, generate a random number. If the random number is:

- 0.000 – 0.333: take proctor sample with the first gradation sample
- 0.334 – 0.666: take proctor sample with the second gradation sample
- 0.667 – 1.000: take proctor sample with the third gradation sample

Example:

Gradation Sample	Gradation Random CY (calculated)
0 - 750 CY	117 CY
751 – 1500 CY	1201 CY
1501 – 2250 CY	2045 CY

Proctor Sample	Random Number	Take Proctor Sample at:
0 – 2250 CY	0.63	1201 CY (751 – 1500 CY gradation sample)

Contractor will supply random numbers for all samples in the initial QMP and in the final QMP submittals.

C.3.5 Department Testing

C.3.5.1 General

(1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

C.3.5.2 Quality Verification (QV) Testing

(1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in C.3.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

(2) The department will conduct QV tests at the minimum frequency of 30% of the required contractor density, Proctor and gradation tests.

(3) The department will locate density tests and gradation samples randomly, at locations independent of the contractor's QC work. The department will split each Proctor and gradation QV sample, testing half for QV, and retaining the remaining half for 10 business days.

(4) The department will conduct QV Proctor and gradation tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.

(5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If density QV test results are nonconforming, the area shall be reworked until the density requirements of this special provision are met. If the gradation test results are nonconforming, standard spec 106.5 will apply. Differing QC and QV nuclear density values of more than 1.5 pcf will be investigated and resolved. QV density tests will be based on the appropriate QC Proctor test results, unless the QV and QC Proctor result difference is greater than 3.0 pcf. Differing QC and QV Proctor values of more than 3.0 pcf will be investigated and resolved.

C.3.5.3 Independent Assurance (IA)

(1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing, including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.
4. Test equipment calibration checks.
5. Reviewing required worksheets and control charts.
6. Requesting that testing personnel perform additional sampling and testing.

(2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in C.3.5.4.

C.3.5.4 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.

(2) Production test results, and results from other process control testing, may be considered when resolving a dispute.

(3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product or work, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of

questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C.4 Geotechnical Information
Geotechnical data to be used in the design of the wall is given on the wall plan. After completing wall excavation of the entire reinforced soil zone, notify the department and allow the Regional Soils Engineer two working days to review the foundation.

D Measurement
The department will measure Wall Wire Faced Mechanically Stabilized Earth LRFD/QMP Pilot by the square foot, acceptably completed, measured as the vertical area within the pay limits the contract plans show. No other measurement of quantities shall be made in the field. Unless the engineer directs in writing, a change to the limits indicated on the contract plan, wall area constructed above or below these limits will not be measured for payment.

E Payment
The department will pay for accepted plan quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.850	Wall Wire Faced Mechanically Stabilized Earth LRFD/QMP Pilot	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of materials; supplying all necessary wall components to produce a functional system constructing the retaining system, including drainage system; providing backfill, backfilling, compacting, developing/completing/documenting the quality management program, performing compaction testing; and for covering the geotextile. Parapets, railings, abutment bodies and other items above the wall cap or coping will be paid for separately. Vehicle barrier and its support will be paid separately.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively.
(NER14-1124)

13.2 Prestressed Precast Concrete Wall Panel, Item SPV.0165.851.

A Description
This special provision describes constructing precast prestressed concrete wall panels with heights and patterns as shown on the plans including product design, fabrication, transportation, erection, anchorage and other related items.

These specifications provide for prestressing concrete panels by the pretensioning method. In this method, stress the reinforcing tendons initially, then place and cure the concrete and release the stress from the anchorages to the concrete after developing specified concrete strength.

Design shall be in accordance to the AASHTO Standard Specification for Highway Bridges and applicable codes. The design life of the precast concrete wall panels and all panel components shall be 75 years.

B Materials

B.1 General

Furnish materials conforming to the following:

Masonry Anchors	standard spec 502
Coated High Strength Bar Steel Reinforcement	standard spec 505
Pretensioning Reinforcement	standard spec 503
Welded Steel Wire Fabric for Concrete Reinforcement	standard spec 505
Structural Steel and Miscellaneous Metals	standard spec 506
Elastomeric Bearing Pads	standard spec 506

Galvanize or furnish stainless steel materials for all hardware incorporated into the finished structures. (Not including reinforcement bars or prêtensioning reinforcement.)

B.2 Concrete

Furnish concrete as specified in standard spec 501 and 716.

Ensure concrete attains a minimum 28-day compressive strength of 5000 pounds per square inch. Base all tests on 6 inch by 12-inch cylinders, or 4 inch by 8-inch cylinders, provided the engineer develops and approves a correlation factor. Mold concrete cylinders in suitable steel or plastic molds. Cure concrete cylinders according to AASHTO T 23, except cure the cylinders with the member until release strength is obtained, then cure the cylinders according to AASHTO T 23.

Make and test the cylinders and make available to the engineer all information relating to the making and testing of cylinders. Notify the engineer immediately if concrete cylinder compressive strengths are less than the required 28-day strength. Keep neatly documented records of all cylinder testing on the day of the test and make them available to the engineer. Provide copies of the tests to the engineer by contract completion.

Furnish precast prestressed concrete panels cast from air entrained concrete. Use type I, IS, I(SM), IP, II, or III cement. The contractor may replace up to 30 percent of type I, II, or III portland cement with an equal weight of fly ash conforming to standard spec 501.2.6 or slag conforming to standard spec 501.2.7. Use only one source and replacement rate for work under a single bid item. Use a department-approved air entraining admixture conforming to standard spec 501.2.2 for air entrained concrete. Use only size No. 1 coarse aggregate conforming to standard spec 501.2.5.4.

Determine proportions for the mix within the following limitations:

Water cement ratio ..... not greater than 0.45
Cement content, pounds per cubic yard of concrete ..... 610 minimum
Air content of concrete, percent maximum 3.5-6.0
Slump of mixed concrete, maximum ..... 4 inches

If the mix does not contain a high range water reducer admixture, use a department-approved set retarding admixture as specified in standard spec 501.2.3.2 at the recommended rate if the ambient air temperature is 70 degrees F (21 degrees C) or higher. The contractor may use it at their option if the ambient air temperature is less than 70 degrees F (21 degrees C).

Do not add more admixtures or water after mixing is complete.

Use admixtures that do not have significant chlorides or chlorides added during manufacture.

Use admixtures that are compatible with all ingredients of the concrete mixture.

B.3 Pretensioning Reinforcement
Use high tensile strength, 7-wire strands conforming to ASTM A 416, grade 270.

B.4 Plant Certification
Obtain all precast prestressed concrete wall panels from fabrication plants that comply with the department's plant certification program for precast prestressed concrete, unless the engineer agrees to accept these items according to the alternate procedures set forth in the department's plant certification program.

B.5 Lifting Devices
The type, number and locations of lifting devices and the method of handling the architectural precast panels is determined by the fabricator and approved by the engineer. Do not locate lifting devices in the surface of the panel facing toward the road.

B.6 Accessories and Inserts
Materials:

Shims: High-density plastic or galvanized steel, 1/8-inch thick, smooth both sides
Carbon steel plate: ASTM A 283
Welded headed studs: AWS D1.1 – Type B
Bolts, nuts, rods, washers: standard spec 506.2
Joint Material: Closed cell 100% virgin chloroprene (neoprene) filler meeting Division II Section 18 of the AASHTO Specifications for Highway Bridges.
Inserts: Galvanized with minimum 12 Gage steel conforming to ASTM A1011 SS GR 33 or ASTM A653 GR 33 A. Inserts anchors to have 1 1/2-inch minimum cover.

Zinc coated fabrications: Conform to ASTM 385 for fabricating zinc coated work.

C Construction

C.1 Design Requirements

Design panels and components to withstand initial handling, transportation, and erection stress limits; dead loads; wind load of 40 pounds per square foot; suction load of 20 pounds per square foot; structural backfill in cavity to 42 inches above finished grade and in front of abutments as shown in the plans; thermal stresses; and other loads specified. In addition to the above loads also design inserts and connection assembles for the loads indicated on the plans and a horizontal force equal to at least 20% of the dead weight of the panel.

Provide a minimum prestress of 250 psi after losses and minimum temperature and shrinkage reinforcement as required by AASHTO Standard Specifications for Highways Article 8.20.

C.2 Submittals

Erection drawings shall conform to the contract plans and consist of member piece marks and completely dimensioned size and shape of each member; plans and/or elevations locating and defining all products furnished by manufacturer; sections and details showing connections, cast-in items and their relation to the structure; relationship to adjacent material including footings and copings; joints between members and structure; description of all loose, cast-in and field hardware; field installed anchor location drawings; erection sequences, when required to satisfy stability, and handling requirements; and all dead, live and other applicable loads used in the design.

Production drawings shall conform to the contract plans and consist of elevation view of each member; sections and details to indicate quantities and position of reinforcing steel, anchors, inserts, etc.; handling devices; dimensions and finishes; prestress for strand; concrete strengths; estimated cambers; and methods for storage and transportation.

Submit on request design calculations performed by a registered engineer licensed in the State of Wisconsin experienced in the design of precast prestressed architectural concrete.

Design modifications necessary to meet performance criteria and field coordination. Variations in details or materials shall not adversely affect the appearance, durability, or strength of units. Maintain general design concept without altering profiles and alignment.

Submit on request reports on materials, compressive strength tests on concrete and water absorption tests on units.

Submit to the engineer, for acceptance and placing on file before commencing, one set of the submittals that the contractor has checked. In addition, provide two sets to the Region office (Danielle Block, (920) 492-2212) and one set to the Bureau of Structures for acceptance and inspection purposes. Only after acceptance by the Region may fabrication

commence of panels begin. The engineer may refuse prints of submittals that are not clear and legible. If the engineer requests, submit one additional copy of submittals for review. After acceptance, furnish as many copies of submittals as required.

The submittals become a part of the contract, provided any differences between sections on production drawings and sections the plans show are made only if the engineer approves and if the substitution is made at no additional expense to the department.

After initial submittal and acceptance, make no deviation from the production drawings or changes to them without the engineer's further review and acceptance.

The engineer's review of submittals means only a review of the character and sufficiency of the details and does not relieve the contractor from responsibility in regard to errors or omissions on those drawings.

C.3 Sample Panel

Produce one standard sample panel for acceptance of color and texture. Before any final panels are produced the 4 x 4 foot sample panel shall be reviewed and accepted by the US 41 team. (Danielle Block, (920) 492-2212) If the panel is not acceptable, a second panel shall be produced and submitted for acceptance. Sample panel to be the standard of quality for precast panel work after acceptance. Test panels shall be delivered to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303) for checking purposes during production of project panels.

C.4 Stressing Procedure

Stressing procedure shall be in accordance to standard spec 503.3.1. Ensure all the strands of a pretensioned member are free from kinks or twists before starting tensioning operations. Ensure no strand unwinds more than one turn after starting tensioning operations.

Perform transfer of prestress to concrete after the concrete develops the minimum required strength for transfer determined by the test cylinders.

C.5 Placing and Fastening Steel

Placing and fastening steel shall be in accordance to standard spec 503.3.1.1. Place all steel units in the position the plans show and hold firmly during concrete placing and setting as specified in standard spec 505.3.

Ensure that all prestressing steel is free of dirt, grease, wax, scale, rust, oil, or other foreign material that may prevent bonding between the steel and the concrete.

C.6 Placing Concrete

Handle and place the concrete as specified in standard spec 502.

C.7 Tolerances
Cast architectural precast concrete panels to plan dimensions within the following applicable tolerances:

Overall height of panel measured at the face exposed to view.....±3/16-inch per 10 ft.
Overall width of panel measured at the face exposed to view.....±3/16-inch per 10 ft.
Total thickness .....± 1/4-inch
Structural thickness.....± 1/4-inch
Variation from square or designated skew.....± ½-inch
Local smoothness, unconcealed surfaces.....± ¼-inch per 10 ft.
Bowing..... ± Length/360, to a maximum of 1-inch
Warp (from adjacent corner).....± 1/16-inch per ft.
Location of inserts.....±½-inch
Tipping and flushness of inserts .....±¼-inch
Position of handling devices .....± 3-inch
Reinforcing steel:
Where position has structural implications or affects concrete cover .....±¼-inch
Otherwise .....± ½-inch
Location of strand:
Perpendicular to panel.....± ¼-inch
Parallel to panel.....±1-inch
Dimensions of architectural features and rustications…… .....±¼-inch

C.8 Curing
Cure concrete in accordance to standard spec 503.3.2.2.

C.9 Surface Finish
Provide architectural surface treatment, brick pattern, as detailed in the plans. Provide a rubbed surface finish on the remaining exposed surfaces of prestressed concrete panels as specified in standard spec 502.3.7.3 before shipping from the plant. Exposed face to match approved mockup panel. Use rigid molds to maintain panels within specified tolerances conforming to shape, lines, and dimensions shown on the production drawings. Construct molds to withstand vibration method selected.

Coat bottom of panels with bitumastic after cutting strands flush. Do not coat top of panels.

C.10 Erection
Erect panels without damage to shape or finish. Replace or repair damaged panels. Do not drill or form holes through the precast prestressed wall facing panels to erect panels. An alternate method of anchoring/attaching the precast prestressed concrete wall panels may be submitted to the engineer for review and possible acceptance.

Place precast concrete wall panels so that their final position is vertical. Ensure that the vertical joint openings between panels are uniform and that decorative patterns between panels are aligned.

When panels require adjustment beyond design or tolerance criteria, discontinue affected work; advise engineer.

Verify structure, footings, anchors blocks, rods, couplers, clevises, and other anchor devices are ready to receive panels. Verify that wall panel footings are placed at the proper horizontal and vertical alignments and are ready to the receive wall panels. Place elastomeric pad and shims behind panels to ensure proper horizontal alignment. Set panels on elastomeric bearing pads and shims and install base angles at ends of panels. Place a 2 foot wide layer of Geotextile Fabric Type DF over the joint between the tilt up panel and the panel footing as shown on the plans. Shim vertical joints to get proper opening. Install and compress neoprene joint filler in the lap joints between panels. Fasten top of panels to deadman anchor block assemblies at MSE walls, as shown on the plans.

Touch-up scratched or damaged galvanized surfaces.

C.11 Erection Tolerances

Plan location from wall reference line ..... ± ½-inch
Plan location from wall alignment ..... ± ½-inch
Top elevation from nominal top elevation ..... ± 1.4-inch
Support elevation from nominal elevation:
Maximum low ..... ½-inch
Maximum high ..... ¼-inch
Plumb in any 10 ft. of panel height ..... ± ¼-inch
Maximum offset of matching edges and decorative patterns ..... ± ¼-inch
Maximum offset of matching faces ..... ± ¼-inch
Joint width (governs over joint taper) ..... ± ¼-inch
Joint taper maximum ..... ± 3/8-inch
Joint taper over 10 ft. length ..... ± ¼-inch
Differential bowing or camber as erected between
adjacent members of the same design ..... ± ¼-inch

C.12 Adjusting

Adjust panels so joint dimensions are within tolerances.

D Measurement

The department will not measure Prestressed Precast Concrete Wall Panel. The department will pay plan quantity in accordance to standard spec 109.1.1.2. Any modifications to the contract quantity caused by corrections or revisions of the original contract plan, which have been approved by the engineer, will be measured by the square foot on a vertical plane between a line at the finished grade in front of the panel and a line indicating the top of wall including wall cap or coping as shown on the plans. Unless

ordered by the engineer, panel area below or above these lines will not be measured for payment.

E Payment

The department will pay for plan quantities in accordance to standard spec 109.1.1.2 at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.851	Prestressed Precast Concrete Wall Panel	SF

Payment is full compensation for preparing the design drawings and calculations, production drawings, and coordination; for providing concrete and reinforcement steel for the cast-in-place concrete footings and copings, prestressed precast wall panels, including all concrete, grout, mortar, reinforcement steel, tie bars, bearing pads, geotextile fabric Type DF, excavation, shims, masonry anchors, filler, anchor plates, angles, slotted inserts and other embedded metal; for casting and curing concrete; for jacking and prestressing; and for furnishing all handling, hauling and erecting. Deadmen, anchor blocks, rods, couplers and clevises shall be produced and supplied to the job site under this item. (Installing deadmen within the reinforced earth mass will be covered under the MSE Wall bid item) Parapets, railings, abutment bodies and other items above the wall panel cap or coping will be paid for separately. Architectural Surface Treatment will be paid for separately.

(NER41 20121227)

13.3 Wall Modular Block Mechanically Stabilized Earth LRFD, Item SPV.0165.852.

A Description

This special provision describes designing, furnishing materials and erecting a permanent earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the wall and all wall components shall be 75 years.

B Materials

B.1 Proprietary Mechanically Stabilized Earth Modular Block Wall Systems

The supplied wall system must be from the department's approved list of modular block mechanically stabilized earth wall systems.

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Design Section. The department maintains a list of pre-approved systems of retaining walls. To be eligible for use on this project, a system must have been pre-approved and added to that list prior to the bid opening date. The name of the companies supplying pre-approved material shall be furnished within 25 days after the award of contract.

Applications for pre-approval may be submitted at any time. Applications must be prepared in accordance to the requirements of current Chapter 14 of the department's LRFD Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Design Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision for review by the department to show the proposed wall design is in compliance with the design specifications.

The design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The wall shall be designed for the heights shown on the plans. The design shall be in compliance with the *AASHTO LRFD Design Specifications* 5th *Edition* 2010 (AASHTO LRFD) with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current *Standard Specifications for Highway and Structure Construction (*Standard Specifications), Chapter14 of the WisDOT LRFD Bridge Manual and standard design procedures as determined by the department. Loads, load combinations and load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined in accordance to Table 11.5.6-1 in AASHTO LRFD.

The design shall include a minimum overburden surcharge of 100 psf in accordance to Chapter 14 of the WisDOT LRFD Bridge Manual or as shown on the plans. The maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

An external stability check at critical wall stations is performed by the department or its design consultant and the Capacity Demand Ratio (CDR) for sliding, eccentricity, and bearing check is provided by the department or its consultant and shown on the plans.

The design of the Wall Modular Block Mechanically Stabilized Earth shall consider the internal stability of the wall mass (tensile stress, pullout resistance, and tensile stress at the connection with the facing) within each layer of reinforcement for the applicable strength limit and extreme event limit states. Maximum factored loads applied to reinforcements for pullout and the connection to the wall face shall be calculated using the Simplified Method or Coherent Gravity Method, as presented in AASHTO LRFD. In

addition, compound stability shall be computed for the applicable strength limit and extreme event limit states in accordance to AASHTO LRFD.

The minimum embedment to the top of the leveling pad shall be as specified in the plans. Potential depth of frost penetration at the wall location shall not be considered in designing the wall for depth of leveling pad.

100% of the soil reinforcement shall be connected to the wall facings. The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 of the wall height or as shown on the plans. In no case shall this length be less than 6 feet. The soil reinforcement shall extend a minimum of 3 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be two times the block depth (front face to back face) or 32 inches, whichever is less. The first (bottom) layer of reinforcement shall be placed no further than 12 inches above the top of the leveling pad or the height of the block, but at least one block height above the leveling pad. The last (top) layer of soil reinforcement shall be no further than 21 inches below the top of the uppermost block.

Submit the following to the engineer for review: complete design calculations, explanatory notes, supporting materials, specifications, and detailed plans and shop drawings for the proposed wall system. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal stabilities as defined in AASHTO LRFD.

The wall submittal package shall be submitted electronically to the engineer and Structures Design Section. Submit all required information no later than 30 days prior to beginning construction of the wall. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls.

B.3 Wall System Components

Materials furnished under this contract shall conform to the requirements of this specification. All certifications related to material and components of the wall systems specified in this subsection shall be submitted to the engineer.

B.3.1 Leveling Pad

The leveling pad shall step to follow the general slope of the ground line. The leveling pad steps shall keep the bottom of the wall below the minimum embedment. Additional embedment that is greater than the minimum embedment will not be measured for payment. The leveling pad shall be as wide as the proposed blocks or a minimum of 12 inches, whichever is greater. The bottom row of blocks shall be horizontal and 100% of the block surface shall bear on the leveling pad.

Provide a 6 inch deep by 12 inch (minimum) wide wall leveling pad that consists of poured concrete masonry, Grade A , A-FA, A-S, A-T, A-IS, or A-IP concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for leveling pad

concrete as specified in the standard spec. A concrete leveling pad shall be provided in following scenarios:

a) When the wall height measured from the top of the leveling pad to the top of the wall exceeds 5 feet at any point along the entire wall length
b) A structure number has been assigned (such as R-XX-XXX), regardless of wall height.

Additionally, for walls that are less than or equal to 5 feet in height and do not have a wall number assigned to them, a compacted 1 foot deep by 2 foot wide leveling pad made from base aggregate dense 1¼-inch in conformance with standard spec 305 may be used.

B.3.2 Wall Facing

Wall facing units shall consist of precast modular concrete blocks. All units shall incorporate a mechanism or devices that develop a mechanical connection between vertical block layers. Units that are cracked, chipped, or have other imperfections in accordance to ASTM C1372, or have excessive efflorescence shall not be used within the wall. A single block type and style shall be used throughout each wall. The color and surface texture of the block shall be as given on the plan or chosen by the engineer.

The top course of facing units shall be a solid precast concrete unit designed to be compatible with the remainder of the wall. The finishing course shall be bonded to the underlying facing units with a durable, high strength, flexible adhesive compound compatible with the block material. A formed cast-in-place concrete cap may also be used to finish the wall. A cap of this type shall be designed to have texture, color, and appearance that complement the remainder of the wall. The vertical dimension of the cap shall not be less than 3½ inches. Expansion joints shall be placed in the cap to correspond with each 24 inch change in vertical wall height and at maximum spacing of 10 feet. Concrete for all cast-in-place caps shall be Grade A and shall conform to the requirements of standard spec 501.

Block dimensions may vary no more than ±1/8 inch from the standard values published by the manufacturer in accordance to ASTM C1372. Blocks must have a minimum depth (front face to back face) of 12 inches. The minimum front face thickness of blocks shall be 4 inches measured perpendicular from the front face to inside voids greater than 4 square inches. The minimum allowed thickness of any other portions of the block is 1¾ inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

Cementitious materials and aggregates for modular blocks shall conform to the requirements of ASTM C1372 Section 4.1 and 4.2. Modular blocks shall meet the following requirements:

Test	Method	Requirement
Compressive Strength (psi)	ASTM C140	5000 min.
Water Absorption (%)	ASTM C140	6 max.
Freeze-Thaw Loss (%) 40 cycles, 5 of 5 samples 50 cycles, 4 of 5 samples	ASTM C1262[1]	 1.0 max.[2] 1.5 max.[2]

[1] Test shall be run using a 3% saline solution.

[2] Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable.

All blocks shall be certified as to strength, absorption, and freeze-thaw requirements unless, due to contract changes after letting, certified blocks are not available when required. At the time of delivery of certified blocks, furnish the engineer a certified test report from a department-approved independent testing laboratory for each lot of modular blocks. The certified test report shall clearly identify the firm conducting the sampling and testing, the type of block, the date sampled, the name of the person who conducted the sampling, the represented lot, the number of blocks in the lot, and the specific test results for each of the stated requirements of this specification. The tests should have been conducted not more than 18 months prior to delivery. A lot shall not exceed 5000 blocks or fraction thereof produced in day. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks without supporting certified test reports will be rejected and shall be removed from the project at no expense to the department.

A department-approved independent testing laboratory shall control and conduct all modular block sampling and testing for certification. Prior to sampling, the manufacturer's representative shall identify all pallets of modular blocks contained in each lot. All pallets of blocks within the lot shall be numbered and marked to facilitate random sample selection.

The representative of the independent testing laboratory shall identify five pallets of blocks by random numbers and shall then select one block from each of these pallets. Solid blocks used as a finishing or top course shall not be selected. The selected blocks shall remain under the control of the person who conducted the sampling until shipped or delivered to the testing laboratory. All pallets of blocks within a lot shall be strapped or wrapped to secure the contents and tagged or marked for identification. The engineer will reject any pallet of blocks delivered to the project without intact security measures. At no expense to the department, the contractor shall remove all rejected blocks from the project.

The department may conduct testing of certified or non-certified modular blocks lots delivered to the project. The department will not conduct freeze-thaw testing on blocks less than 45 days old. If a random sample of five blocks of any lot tested by the department fails to meet any of the requirements of this specification (nonconforming), the contractor shall remove from the project site all blocks from the failed lot not

installed in the finished work at no cost to the department, unless the engineer allows otherwise. Nonconforming blocks installed in the finished work will be considered approved by the department as stated in standard spec 106.5(2) and any adjustment to the contract price will not exceed the price of the blocks charged by the supplier.

B.3.3 Geogrids

Geogrid supplied as reinforcing members shall be manufactured from long chain polymers limited to polypropylene, high-density polyethylene, polyaramid, and polyester. Geogrids shall form a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The minimum grid aperture shall be 0.5 inch. The geogrid shall maintain dimension stability during handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant. The geogrid shall be furnished in a protective wrapping that shall prevent exposure to ultraviolet radiation and damage from shipping or handling. The geogrid shall be kept dry until installed. Each roll shall be clearly marked to identify the material contained.

The wall supplier shall provide the nominal long-term design strength (T_{al}) and nominal long-term connection strength, T_{alc} as discussed below.

Nominal Long-Term Design Strength (T_{al})

The wall supplier shall supply the nominal long-term design strength (T_{al}) used in the design for each reinforcement layer and shall be determined by dividing the Ultimate Tensile Strength (T_{ult}) by the factors RF_{ID}, RF_{CR}, RF_{D}.

Hence,

$$T_{al} = \frac{T_{ult}}{RF_{ID} \, x RF_{CR} \, x RF_{D}}$$

where:

T_{ult} = ultimate tensile strength of the reinforcement determined from wide width tensile tests (ASTM D6637) for geogrids based on the minimum average roll value (MARV) for the product

RF_{ID} = strength reduction factor to account for installation damage to the reinforcement. In no case shall RF_{ID} be less than 1.1.

RF_{CR} = strength reduction factor to prevent long-term creep rupture of the reinforcement. In no case shall RF_{CR} be less than 1.2.

RF_{D} = strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation. In no case shall RF_{D} be less than 1.1.

Values for RF_{ID}, RF_{CR}, and RF_D shall be determined from product specific test results. Guidelines for determining RF_{ID}, RF_{CR}, and RF_D from product specific data are provided in FHWA Publication No. FHWA-NHI-10-024 and FHWA –NHI-10-025 "Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes".

Nominal Long-term Connection Strength T_{ac}

The nominal long term connection strength, $T_{ac,}$ shall be based on laboratory geogrid connection tests between wall facing and geogrids. T_{ac} shall be as given below:

$$T_{ac} = \frac{T_{ult} * CR_{cr}}{RF_D}$$

where:

T_{ac} = nominal long-term reinforcement facing connection strength per unit reinfrocment width at a specified confining pressure

T_{ult} = ultimate tensile strength of the reinforcement for geogrids defined as the minimum average roll value (MARV) for the product

CR_{cr} = long term connection strength reduction factor to account for reduced ultimate strength resulting from connection.

RF_D = strength reduction factor to prevent rupture of the reinforcement due to chemical and biological degradation.

T_{ac} shall be developed from the tests conducted by an independent laboratory on the same facing blocks and geogrids as proposed for the wall and shall cover a range of overburden pressures comparable to those anticipated in the proposed wall. The connection strength reduction factor CR_{cr} shall be determined in accordance to long-term connection test as described in Appendix B of FHWA Publication No. FHWA-NHI 10-025 "Design and Construction of Mechanically Stabilized Earth Walls and Reinforced Soil Slopes". CR_{cr} may also be obtained from the short term connection test meeting the requirements of NCMA test method SRWU-1 in Simac et al 1993 or ASTM D4884.

The contractor shall provide a manufacturer's certificate that the Tult (MARV) of the supplied geogrid has been determined in accordance to ASTM D4595 or ASTM D6637 as appropriate. Contractor shall also provide block to block and block to reinforcement connection test reports prepared and certified by an independent laboratory. Also provide calculations in accordance to AASHTO LRFD, and using the results of laboratory tests, that the block-geogrid connections shall be capable of resisting 100% of the maximum

tension load in the soil reinforcements at any level within the wall, for the design life of the wall system.

B.3.4 Galvanized Metal Reinforcement

In lieu of polymeric geogrid earth reinforcement, galvanized metal reinforcement may be used. Design and materials shall be in accordance to Section 11.10.6.4.2 of the current *AASHTO LRFD* Specifications. The design life of steel soil reinforcements shall also comply with AASHTO LRFD.

B.3.5 Pins

If pins are used to align modular block facing units, they shall consist of a non-degrading polymer, or hot dipping galvanized steel and be made for the express use with the modular block units supplied, to develop mechanical interlock between facing unit block layers. Connecting pins shall be capable of holding the geogrid in the proper position during backfilling. Furnish documentation that establishes and substantiates the design life of such devices.

B.3.6 Backfill Materials

Wall Backfill, Type A, shall comply with the requirements for Coarse Aggregate No. 1 as given in standard spec 501.2.5.4.4. All backfill placed within a zone from the base of the leveling pad to the top of the final layer of wall facing units and within 1 foot behind the back face of the wall shall be Wall Backfill, Type A. This includes all material used to fill openings in the wall facing units.

Wall Backfill, Type B, shall comply with the requirements for Grade 1 Granular Backfill as contained in standard spec 209.2.2. All backfill placed in a zone extending horizontally from 1 foot behind the back face of the wall to 1 foot beyond the end of the reinforcement and extending vertically from the base of the leveling pad to the top of the final layer of all facing units shall be Wall Backfill, Type B.

Backfill within the reinforced zone shall meet the following requirements:

Test	Method	Value
pH	AASHTO T-289	4.5 – 9.0
Sulfate content[1]	AASHTO T-290	200 ppm max.
Chloride content[1]	AASHTO T-291	100 ppm max.
Electrical Resistivity[1]	AASHTO T-288	3000 ohm/cm min.
Angle of Internal Friction	AASHTO T-236	30 degrees min.
Organic Content[1]	AASHTO T-267	1.0% max.

[1] Requirement does not apply to walls with non-metallic reinforcement.

Prior to placement of the backfill, obtain and furnish to the engineer certified report of test results that the backfill material complies with the requirements of this specification. When backfill characteristics and/or sources change, a certified report of tests must be provided for the new backfill material.

All other backfill materials required to finish the wall and restore the ground surface may be select material available on the project that meets the engineer's approval.

C Construction

C.1 General

Place the wall facing units in accordance to the manufacturer's instructions and to the lines, elevations, batter, and tolerances as shown on the plans. Center the initial layer of facing units on the leveling pad; then level them and properly align them. Fill formed voids or openings in the facing units with wall backfill, Type A. Remove all debris on the top of each layer of facing units, before placing the next layer of facing units.

Install all pins, rods, clips, or other devices used to develop mechanical interlock between facing unit layers in accordance to the manufacturer's directions.

All excavation for the Wall Modular Block Mechanically Stabilized Earth shall conform to standard spec 206. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back face of the wall.

C.2 Backfill

Place backfill materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth. Backfilling shall closely follow erection of each course of wall facing units. Compact wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to the engineer.

Compact wall backfill Type B as specified in standard spec 207.3.6. Compact Wall Backfill Type B to 95.0% of maximum density as determined by AASHTO T-99, Method C. Perform compaction testing on the backfill. When performing nuclear testing, use a nuclear gauge from the department's approved list, ensure that the operator is a HTCP certified Nuclear Density Technician I, and conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 2 feet of vertical wall height, per 200 feet length of wall, or major portion thereof. A minimum of one test for every 2-foot layer of vertical wall height is required. Test sites shall be selected using ASTM Method D3665. Deliver documentation of all compaction testing results to the engineer at the time of testing.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units, soil reinforcement, or other wall components. At no expense to the department, correct any such damage or misalignment as directed by the engineer. A field representative of the wall supplier shall be available during wall construction to provide technical assistance to the contractor and the engineer.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill.

Do not operate tracked or wheeled equipment on the backfill within 3 feet from the back face of modular blocks. The engineer may order the removal of any large or heavy equipment that may cause damage or misalignment of the wall facing units.

C.3 Soil Reinforcement

Place soil reinforcement at the positions and to the lengths as indicated on the accepted shop drawings. Take care that backfill placement over the positioned soil reinforcement elements does not cause damage or misalignment of these elements. Correct any such damage or misalignment as directed by the engineer. Do not operate wheeled or tracked equipment directly on the soil reinforcement. A minimum cover of 6 inches is required before such operation is allowed.

C.4 Geogrid Layers

Place and anchor geogrid material between wall unit layers in the same manner as used to determine the Geogrid Block-to-Connection Strength. Place the grid material so that the machine direction of the grid is perpendicular to the wall face. Each grid layer shall be continuous throughout the lengths indicated on the plans. Join grid strips with straps, rings, hooks or other mechanical devices to prevent movement during backfilling operations. Prior to placing backfill on the grid, pull the grid taunt and hold in position with pins, stakes or other methods approved by the engineer.

C.5 Steel Layers

Place the steel reinforcement full width in one piece as shown on the plans. No splicing will be allowed. Maintain elements in position during backfilling.

C.6 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. After completion of wall excavation, notify the department and allow 2 days for the Regional Soil Engineer to review the foundation.

D Measurement

The department will measure Wall Modular Block Mechanically Stabilized Earth LRFD in area by the square foot, acceptably completed, measured as the vertical area within the pay limits the contract plan show. No other measurement of quantities shall be made in the field unless the engineer directs in writing a change to the limits indicated on the contract plans.

E Payment

The department will pay for plan quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.852	Wall Modular Block Mechanically Stabilized Earth LRFD	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of surplus materials; supplying all necessary wall components to produce a functional system including cap, copings and leveling pad; constructing the retaining system and wall drainage systems if applicable; providing backfill, backfilling and compacting, and performing compaction testing. Parapets, railings, and other items above the wall cap or coping will be paid for separately.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively.

14. Drainage and Erosion Control.

14.1 Notice to Contractor – Riprap Medium and Heavy.

All Riprap Medium and Heavy, placed under the contract, north of Duck Creek only, shall be washed and free of fines and sediment prior to being installed. All costs associated with washing riprap shall be incidental to the riprap items.

14.2 Notice to Contractor –Private Storm Sewer.

Private storm sewer draining a parking lot extends onto highway right-of-way storm sewer along the southbound USH 41 off-ramp to Velp Avenue (VEC-line). Do not disturb the private storm sewer line.

14.3 Notice to Contractor – Street Sweeping.

All street sweeping due to contractors hauling operations is considered incidental to the contract. The contractor is responsible in keeping all public roadways clean and free from dirt and debris at all times. For this work provide a self-contained mechanical or air conveyance street sweeper and dispose the accumulated material.

Cleaning of the roadway before traffic switches or cleaning of roadways from non-contractor vehicle traffic will be paid for under the contract item Street Sweeping.

14.4 Notice to Contractor – Storm Sewer.

Written approval from the engineer is required for any storm sewer that is installed before staged roadway embankment settlement is achived. If allowed, the storm sewer must have all the joints tied.

14.5 Erosion Control.

Supplement standard spec 107.20 as follows:

Perform construction operations in a timely and diligent manner, continuing all construction operations methodically from the initial topsoil stripping operation through the subsequent grading and finishing to minimize the period of exposure to erosion.

Immediately re-topsoil graded areas, as designated by the engineer, after grading is completed within those areas. Seed, fertilize, and mulch or erosion mat all topsoiled areas within five working days after placement of topsoil.

Restore as much disturbed area as possible or as directed by the engineer with topsoil, seeding, fertilizer, and mulching or erosion mat at the end of each construction season to minimize erosion due to spring melt. As directed by the engineer, stabilize areas that cannot be restored with permanent measures at the end of each construction season with the soil stabilizer item provided in the plan.

Prepare an Erosion Control Implementation Plan (ECIP) amendment detailing an over-winter erosion control plan for 2015/2016/2017. Present this ECIP amendment at a pre-winter shut down meeting with DNR and department staff prior to October 15.
(NER41-20100201)

14.6 Erosion Control Structures.

Within seven calendar days after the commencement of work on the bridge superstructure, place all permanent erosion control devices, including riprap, erosion mat, ditch checks, seed, fertilizer, mulch, soil stabilizer, or any other item required by the contract or deemed necessary by the engineer. These devices shall be in place in the area under the bridge and on both sides of the roadway, from the waterway to a point 100-feet behind the backwall of the abutment. Within said limits, place these devices to a height equivalent to the calculated water elevation resulting from a storm that occurs on the average of once every two years (Q2) as shown on the plan, or as directed by the engineer. Prior to initial construction operations, place turbidity barriers, silt screens, and other temporary erosion control measures as shown on the plans, and remove them after the permanent erosion control devices are in place unless directed otherwise by the engineer.

In the event that construction activity does not disturb the existing ground below the Q2 elevation, the above timing requirements for permanent erosion control shall be waived.
107-070 (20030820)

14.7 Erosion Control Implementation Plan (ECIP).

Before submittal of the ECIP arrange a pre-ECIP meeting with the department to go over proposed staging and environmental restrictions before submittal of the ECIP.

Detail all temporary wetland impacts including acres of these impacts to ensure compliance with all environmental restrictions.

Detail each construction phase per year; include plans for staging large fills and detailed plans for placing temporary and permanent erosion control items to provide for winterization of the project.

Detail all construction entrance locations and erosion control techniques to minimize sediment movement out of the project site.

14.8 Removal of Erosion Control Between Lifts of Staged Embankment.

The following erosion control items, placed on a lower lift of fill embankment, shall be removed before placing over top the next fill lift: erosion mat, sod, silt fence, erosion bales, ditch checks, and rock bags. Seeding riprap, tracking pads, mulch or soil stabilizer can remain between successive lifts of fill embankment.

14.9 Granular Backfill.

Replace standard spec 209.2.1(1) with the following:

(1) Furnish natural sand or a mixture of sand with gravel, crushed gravel or crushed stone.

Replace standard spec 209.2.1(2) with the following:

(2) For backfill for trench excavation, use a maximum size of any gravel or stone so that 100 percent passes a 6-inch sieve, not less than 85 percent by weight passes a 3-inch sieve, and not less than 25 percent by weight passes a No. 4 sieve. For bedding under a culvert pipe, use granular backfill that consists substantially of sand with all particles retained on a one-inch sieve removed.

14.10 Backfill Coarse Aggregate Size No 1, Item 209.0300.S.

A Description
This special provision describes furnishing and placing coarse aggregate backfill as shown on the plans and as hereinafter provided.

B Materials
Provide clean concrete aggregate graded in accordance to the requirements as specified under standard spec 501.2.5.4.4. The soundness and wear requirements are deleted from this material.

C Construction
Construct the coarse aggregates in accordance to standard spec 209.3.

D Measurement
The department will measure Backfill Coarse Aggregate Size No 1 in volume by the cubic yard in the vehicle.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
209.0300.S	Backfill Coarse Aggregate Size No. 1	CY

Payment is full compensation for furnishing and installing the aggregate.
209-030 (20030820)

14.11 Storm Sewer Backfill.

Replace standard spec 607.3.5(1) with the following:

(1) Backfill all trenches and excavations immediately after completing sewer construction as shown in the storm sewer backfill construction details of the plans. Native material shall be selected material from excavation that is free from large lumps, clods, or rock. All other backfill material referenced in the storm sewer backfill construction details shall conform to the standard specification standard spec 209.

Replace standard spec 607.5.1(1) with the following:

(1) Payment for the Storm Sewer Pipe bid items is full compensation for providing all materials, including all special Y's, mitered sections, elbows and connections required; for excavating and wasting excess material, except rock excavation; for providing and removing sheeting and shoring; for forming foundation; for laying pipe; for sealing joints and making connections to new or existing features; for providing granular backfill material, native material, including bedding material; for backfilling; for cleaning out; and absent the pertinent contract bid items, for restoring the work site.

14.12 Pipe Grates, Item 611.9800.S.

A Description
This special provision describes furnishing and installing pipe grates on the ends of pipes as shown in the plans, and as hereinafter provided.

B Materials
Furnish steel conforming to the requirements of standard spec 506.2.2.1. Furnish steel pipe conforming to the requirements of standard spec 506.2.3.6.

Furnish pipe grates galvanized according to ASTM A123.

Furnish angles and brackets galvanized according to ASTM A123.

Furnish required hardware galvanized according to ASTM A153.

C Construction
Repair pipes, rods, angles and brackets on which the galvanized coating has been damaged in accordance to the requirements of AASHTO M36M.

D Measurement
The department will measure Pipe Grates in units of work, where one unit is one grate, completed and accepted.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
611.9800.S	Pipe Grates	Each

Payment is full compensation for furnishing and installing all materials; and for drilling and connecting grates to pipes.
611-010 (20030820)

14.13 Temporary Ditch Checks.

Complete work in accordance to standard spec 628 and as herein provided. Erosion bales will not be allowed for construction of temporary ditch checks.

Delete standard spec 628.3.14(2) and replace it with the following:

(2) Construct temporary ditch checks using a manufactured alternative from the PAL. Place temporary ditch checks across ditches at locations the plans show or as the engineer directs immediately after shaping the ditches or slopes. Excavate upstream sumps as the engineer directs.

Delete standard spec 628.4.17 and replace it with the following:

(1) The department will measure Temporary Ditch Checks by the linear foot, acceptably completed.
(NER41-20100201)

14.14 Inlets 4-FT Diameter Special, Item SPV.0060.100; Inlets 2 x 2.5-FT Special, Item SPV.0060.101.

A Description
Construct Inlets 4-FT Diameter Special and Inlets 2 x 2.5-FT Special as shown on the plans, or as directed by the engineer, and in accordance to standard spec 611 and as hereinafter provided.

B Materials
Materials shall be in accordance to standard spec 611.2. The rubber adjustment riser is to be on the department's approved product list.

C Construction
Construction shall be in accordance to the plans and with standard spec 611.3.

Replace standard spec 611.3.3(1) with the following:

Set inlet cover on rubber adjustment riser ring. Use approved mastic adhesive between the ring and the inlet structure. Use an approved polyurethane adhesive with a flexible set between the ring and the inlet cover. Use two 5/16-inch beads of adhesive placed 1 inch and 2 inches in from the outside edge of the ring. If multiple adjustment rings are necessary, a maximum of two adjustment rings can be used. A maximum of 3 inch adjustment is allowed. Use polyurethane adhesive with a flexible set to join the two rings. If the adjustment rings must be cut, the joints must be staggered and a polyurethane adhesive used to reattach the cut ends. No concrete adjustment rings or mortar is to be placed between the top of the structure and the inlet cover.

D Measurement
The department will measure Inlets 4-FT Diameter Special and Inlets 2 x 2.5-FT Special as each individual inlet, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.100	Inlets 4-FT Diameter Special	Each
SPV.0060.101	Inlets 2 x 2.5-FT Special	Each

Payment shall be in accordance to standard spec 611.5.
(NER11-0127)

14.15 Inlet Cover Type DW, Item SPV.0060.103.

A Description
This special provision describes constructing inlet covers as shown on plans and directed by the engineer and as hereinafter provided.

B Materials
Furnish inlet covers that are in accordance to requirements of standard spec 611.2.

C Construction
Use construction methods conforming to the plans and with standard spec 611.3.

D Measurement
The department will measure Inlet Cover Type DW by each individual cover, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.103	Inlet Cover Type DW	Each

Payment shall be in accordance to standard spec 611.5.

14.16 Apron Endwalls for Culvert Pipe Steel 10-Inch, Item SPV.0060.113.

A Description
This special provision describes constructing apron endwalls as shown on plans and directed by the engineer and as hereinafter provided.

B Materials
Furnish inlet covers that are in accordance with requirements of standard spec 521.2.

C Construction
Use construction methods conforming to the plans and with standrad spec 521.3.

D Measurement
The department will measure Apron Endwalls for Culvert Pipe Steel 10-Inch by each individual endwall, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.113	Apron Endwalls for Culvert Pipe Steel 10-Inch	Each

Payment shall be in accordance to standard spec 521.5.

14.17 Sedimentation Basin, Item SPV.0060.151.

A Description
Design, supply and maintain a sedimentation basin used to de-water the culvert pipes or stormwater ponds.

B (Vacant)

C Construction
Design a sedimentation basin that is able to filter the contaminated water prior to discharging it back into the lake or adjacent drainage way. Wisconsin DNR has technical standard guidelines for sedimentation basin design. Maintain the sedimentation basin at regular intervals or as directed by the engineer.

D Measurement
The department will measure Sedimentation Basin as each individual basin installed in accordance to the contract and accepted.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.151	Sedimentation Basin	Each

Payment is full compensation for design and approval; furnishing and maintaining each basin; for any polymers required to achieve performance standards; and for removal of the basin.
(NER41-20110317)

14.18 Temporary Stone Ditch Checks, Item SPV.0060.152.

A Description
Furnish and install temporary stone ditch checks; clean and maintain ditch checks as shown on the plans or as directed by the engineer, and as hereinafter provided. This item also includes the removal and disposal of the ditch checks as directed by the engineer.

B Materials
Provide all materials used under this item in accordance to standard spec 312.

C Construction
Place stone ditch checks immediately after shaping of the ditches or slopes are completed. Place stone checks at right angles to the direction of flow and construct in accordance to the details shown in the plans.

Remove sediment from behind the stone ditch checks when it has accumulated to one half of the original height of the dam. Perform cleaning in accordance to standard spec 628.

D Measurement
The department will measure Temporary Stone Ditch Checks by each individual item, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.152	Temporary Stone Ditch Checks	Each

Payment is full compensation for furnishing, installing, maintaining, and cleaning; disposal of sediment; and for removing temporary ditch check.

Restoration of the area after ditch check removal shall be paid for with restoration items included in the contract.
(NER41-20100201)

14.19 Tracking Pad Maintenance, Item SPV.0060.153.

A Description
This item includes maintenance of existing tracking pads installed by others at the designated Phragmites waste site.

B Materials
Furnish tracking pad aggregate conforming to standard spec 312.2 for select crushed material except the material shall be substantially free of particles passing the No. 10 sieve.

C Construction
Replace or rework material on the surface of the pad to ensure that the amount of material tracked onto public roads is minimized. Maintain the driving surface in a clean and safe operating condition.

D Measurement
The department will measure Tracking Pad Maintenance each time a tracking pad requires rework or replacement of aggregate material and is acceptably completed. Payment will not be made for removing spillage on the highway and clean up shall be completed in accordance to standard spec 107.8(3).

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.153	Tracking Pad Maintenance	Each

Payment is full compensation for rework or replacement of aggregate material on existing tracking pads and for furnishing all incidentals to complete the work.
(NER41-20110317)

14.20 Drain Slotted Vane Type A 3-Foot, Item SPV.0060.104; Type B 6-Foot, Item SPV.0060.105.

A Description
This special provision describes furnishing and installing slotted vane drain as shown on the plans, in accordance to standard specs 501, 505, 607, and 611, and as hereinafter provided.

B Materials
The pipe that the vane drain casting rests in shall be 10-inch diameter SDR-35 poly vinyl chloride, (PVC) sewer pipe.

C Construction
Prior to encasing the pipe in concrete, cover the upper end of the slotted drain as shown on the plans, or as approved by the engineer.

Prior to construction operations adjacent to the slotted area of the slotted vane drain pipe, cover the slots on the top of the drain. Remove any material entering the pipe at the contractor's expense.

Exercise care to avoid damage to the slotted vane drainpipe. If any section of pipe is damaged or is unsatisfactory as determined by the engineer, replace the drainpipe at contractor’s expense.

D Measurement
The department will measure Drain Slotted Vane (Type) (Length) by each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.104	Drain Slotted Vane Type A 3-Foot	Each
SPV.0060.105	Drain Slotted Vane Type B 6-Foot	Each

Payment is full compensation for furnishing all materials, including PVC pipe and end cap, slotted vane drain castings, concrete masonry and reinforcement; adjusting bricks; drilling type V inlet cover to accommodate connection bolts to vane drain; hauling and placing the pipe; making connections to existing inlets; and for cleaning out and restoring site of work.
(NER41-20100201)

14.21 Inlets Median 2 Grate Special, Item SPV.0060.110.

A Description
This special provision describes constructing median inlets as shown in the plan and hereinafter provided.

B Materials
Furnish in accordance to the pertinent requirements of standard spec 611.2.

C Construction
Construct in accordance to the pertinent requirements of standard spec 611.3.

D Measurement
The department will measure Inlets Median 2 Grate Special as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.110	Inlets Median 2 Grate Special	Each

Payment is in accordance to standard spec 611.5.

14.22 Street Sweeping, Item SPV.0075.150.

A Description
Remove small dirt and dust particles from the roadway using a street sweeper for cleaning the roadway before traffic switches or cleaning of roadways from non-contractor vehicle traffic.

B (Vacant)

C Construction
Provide a self-contained mechanical or air conveyance street sweeper and dispose the accumulated material.

D Measurement
The department will measure Street Sweeping by the hour that the street sweeper is on the project picking up and removing debris from the roadway, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.150	Street Sweeping	HRS

Payment is full compensation for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

All street sweeping due to the contractors hauling operations is considered incidental to the contract.

14.23 Reconstructing Manholes 4-FT Diameter, Item SPV.0200.100; Reconstructing Manholes 5-FT Diameter, Item SPV.0200.101; Reconstructing Manholes 6-FT Diameter, Item SPV.0200.102; Reconstructing Manhole 6x6-FT, Item SPV.0200.103.

A Description
Reconstruct manholes to elevations as shown on the plans, or as directed by the engineer, and in accordance to standard spec 611 and as hereinafter provided.

B Materials
Materials shall be in accordance to standard spec 611.2.

C Construction
Construction shall be in accordance to the plans, with standard spec 611.3, and Standard Detail Drawing 8B 9 "MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER".

D Measurement
The department will measure Reconstructing Manhole (Diameter) by the Vertical Foot acceptably completed. Measurement is from the top of the existing structure to top of casting at the finished grade.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0200.100	Reconstructing Manhole 4 FT Diameter	VF
SPV.0200.101	Reconstructing Manhole 5 FT Diameter	VF
SPV.0200.102	Reconstructing Manhole 6 FT Diameter	VF
SPV.0200.103	Reconstructing Manhole 6x6-FT	VF

Payment is full compensation for providing and installing all required materials, including masonry, granular backfill and fittings: for salvaging and reinstalling existing covers, including frames, grates or lids; for furnishing all necessary excavation, backfilling, disposing of surplus material, and for cleaning out and restoring the work site.

15. Miscellaneous Concrete.

15.1 Concrete Barrier Curing.

Add the following to standard spec 603.3.1.4:

(2) When curing compound is applied to concrete barrier in proximity to live traffic, develop a construction plan which includes a containment system to avoid overspray onto traffic and to ensure complete coverage with the curing compound. Submit the construction plan to the engineer for review and approval.
(NER41-20111213)

15.2 Coloring Concrete Red, Item 405.0100.

Supplement standard spec 405.2.4.1, Colored Concrete Mix Approval General, with the following:

Test slab color will be evaluated for approval no earlier than 5 days after the test panel was poured and sealed.
(NER41-20111110)

15.3 Concrete Barrier Transition Type S56 (54-Inch Wide Base) to S 56 (36-Inch Wide Base), Item SPV.0060.005.

A Description
Construct Concrete Barrier Transition (Type) (Size) in accordance to standard spec 603, details shown in the plans and as hereinafter provided.

B Materials
Furnish materials conforming to standard spec 603.2.

Concrete minimum strength to be 4000 psi.

C Construction
Use construction methods conforming to standard spec 603.3.

Construct the Concrete Barrier Transition (Type) (Size) to present a smooth, uniform appearance in its final position conforming to the horizontal and vertical lines shown on the plans or as directed by the engineer, and be free of lumps, sags or other irregularities. The top and exposed faces of the barrier shall conform to standard spec 603.3.1.5.

Construct expansion joints in conformance with standard spec 603.3.1.3.

When forming joints before the concrete has hardened, support adjacent portions of the barrier firmly with close fitting shields.

When forming joints after the application of curing compound, treat the exposed faces of the barrier in the vicinity of the joint with curing compound after the forming of the joints.

In transitions between barrier shapes, tie reinforcement bars to Concrete Barrier reinforcement by tying the first vertical bar ±3 inches from the transition point and lapping any horizontal bars that match.

D Measurement
The department will measure Concrete Barrier Transition (Type) (Size) by each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.005	Concrete Barrier Transition Type S56 (54-Inch Wide Base) to S56 (36-Inch Wide Base)	Each

Payment will be made in accordance to standard spec 603.5.

15.4 Concrete Curb and Gutter 18-Inch Type A Full Depth Reverse Slope Gutter, Item SPV.0090.001; 30-Inch Type A Full Depth, Item SPV.0090.002; 32-Inch Type A Full Depth, Item SPV.0090.003; 54-Inch Type A Full Depth, Item SPV.0090.004; 4-Inch Sloped 36-Inch Type A Full Depth, Item SPV.0090.006; 4-Inch Sloped 36-Inch Type R Full Depth, Item SPV.0090.007; 6-Inch Sloped 36-Inch Type A Full Depth, Item SPV.0090.008; 6-Inch Sloped 60-Inch Type A Full Depth, Item SPV.0090.009.

A Description
This work consists of furnishing all materials and constructing a cast-in-place concrete curb and gutter section as shown on the plans, in accordance to standard spec 601, and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement
The department will not measure Concrete Curb and Gutter (width) (Type). The department will use pay plan quantity according to standard spec 109.1.1.2.

E Payment

The department will pay for plan quantities according to standard spec 109.1.1.2 at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.001	Concrete Curb and Gutter 18-Inch Type A Full Depth Reverse Slope Gutter	LF
SPV.0090.002	Concrete Curb and Gutter 30-Inch Type A Full Depth	LF
SPV.0090.003	Concrete Curb and Gutter 32-Inch Type A Full Depth	LF
SPV.0090.004	Concrete Curb and Gutter 54-Inch Type A Full Depth	LF
SPV.0090.006	Concrete Curb and Gutter 4-Inch Sloped 36-Inch Type A Full Depth	LF
SPV.0090.007	Concrete Curb and Gutter 4-Inch Sloped 36-Inch Type R Full Depth	LF
SPV.0090.008	Concrete Curb and Gutter 6-Inch Sloped 36-Inch Type A Full Depth	LF
SPV.0090.009	Concrete Curb and Gutter 6-Inch Sloped 60-Inch Type A Full Depth	LF

Payment is full compensation for excavating and preparing the foundation; for providing all materials, including concrete, and expansion joints; and for placing, finishing, protecting and curing concrete.

15.5 Concrete Barrier Type S56 (36-Inch Wide Base), Item SPV.0090.014; Concrete Barrier Type S56A (36-Inch Wide Base), Item SPV.0090.015.

A Description

This special provision describes constructing Concrete Barrier (Type) (Size) in accordance to standard spec 603, details shown in the plans and as hereinafter provided.

B Materials

Furnish materials conforming to standard spec 603.2.

Concrete minimum strength to be 4000 psi.

C Construction

Use construction methods conforming to standard spec 603.3.

Construct the concrete barrier to present a smooth, uniform appearance in its final position conforming to the horizontal and vertical lines shown on the plans or ordered by the engineer, and be free of lumps, sags or other irregularities. The top and exposed faces of the barrier shall conform to standard spec 603.3.1.5.

If constructed by using a slip form machine or similar type equipment, the concrete barrier shall be of well-compacted, dense concrete, and the exposed surfaces conform to standard spec 603.3.1.7. If requested by the engineer, evidence of successful operation of the slip form machine or other equipment may be required.

Feed concrete into the slip form machine at a uniform rate. Operate the machine under sufficient uniform restraint to forward motion to produce a well compacted mass of concrete free from surface pits larger than one inch in diameter and requiring no further finishing, other than that conforming to standard spec 603.3.1.6.

Utilize concrete of such consistency that, after slip forming, it will maintain the shape of the barrier without support.

Construct expansion joints in conformance with standard spec 603.3.1.3.

When forming joints before the concrete has hardened, support adjacent portions of the barrier firmly with close fitting shields.

When forming joints after the application of curing compound, treat the exposed faces of the barrier in the vicinity of the joint with curing compound after the forming of the joints.

In transitions between barrier shapes, tie reinforcement bars to concrete barrier reinforcement by tying the first vertical bar ±3 inches from the transition point and lapping any horizontal bars that match.

Required Vertical Construction Joint can be constructed in 2 ways: 1) pour the shoulder to the required vertical construction joint, then pour the barrier full depth (no optional horizontal construction joint), the barrier shall not be poured or allowed to slump over any vertical construction joint, or 2) pour the shoulder to go under the barrier (utilizing the optional horizontal construction joint), with the vertical construction joints placed within 4" horizontally of the edge of the barrier. The vertical construction joints may be saw cut full depth and sealed within 4” horizontally of the edge of the barrier. Location of saw cut will be determined in the field to match existing conditions. The barrier shall not be poured or allowed to slump over any vertical construction joints. Saw cut and sealing is incidental to Concrete Barrier Type S56 or Type S56A.

D Measurement

The department will not measure Concrete Barrier (Type) (Size) by the linear foot, acceptably completed, measured along the base of the concrete barrier in accordance to standard spec 109.1.1.2.

E Payment

The department will pay for plan quantities according to standard spec 109.1.1.2 at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.014	Concrete Barrier Type S56 (36-Inch Wide Base)	LF
SPV.0090.015	Concrete Barrier Type S56A (36-Inch Wide Base)	LF

Payment will be made in accordance to standard spec 603.5, except for sawing pavement and sealing the construction joints, which will be considered incidental to the barrier item.
(NER41-20141110)

15.6 Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 1 Layer, Item SPV.0090.016; Plastic 2 Layers, Item SPV.0090.017; Plastic/Hay/Plastic or Blankets, Item SPV.0090.018.

A Description
Place protective covering in accordance to standard spec 415.3.13, the plans, standard detail drawings, and as hereinafter provided.

B Materials
Furnish materials that meet the requirements specified in standard spec 415.3.13.2.

C (Vacant)

D Measurement
The department will measure Concrete Curb and Gutter and Barrier, Cold Weather Covering (Type) by the linear foot, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.016	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 1 Layer	LF
SPV.0090.017	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 2 Layers	LF
SPV.0090.018	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic/Hay/Plastic or Blankets	LF

Payment is full compensation for supplying the plastic, hay, material sufficient to weight down the insulating materials to withstand wind; and for furnishing all labor, tools, equipment, and incidentals required to place, remove, replace and dispose of all covering materials as required during normal concreting operations. Heating of water, aggregates, or both, if deemed necessary by the contractor to maintain placement temperature, is incidental to this item.
(NER41-20110718)

15.7 Concrete Curb and Gutter 30-Inch Type D HES, Item SPV.0090.019; 30-Inch Type A Full Depth HES, Item SPV.0090.20.

A Description
This special provision describes constructing concrete curb and gutter using high early strength concrete as shown on the plans, directed by the engineer and as hereinafter provided.

B Materials
Furnish materials in accordance to the pertinent requirements of standard spec 601.2.

C Construction
Use construction methods conforming to standard spec 602.3.

Conform to standard spec 415.3.15 for opening to service.

D Measurement
The department will not measure Concrete Curb and Gutter 30-Inch Type D HES and Concrete Curb and Gutter 30-Inch Type A Full Depth HES. The department will use pay plan quantity according to standard spec 109.1.1.2.

E Payment
The department will pay for plan quantities according to standard spec 109.1.1.2 at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.19	Concrete Curb and Gutter 30-Inch Type D HES	LF
SPV.0090.20	Concrete Curb and Gutter 30-Inch Type A Full Depth HES	LF

Payment is in accordance to standard spec 601.5.

15.8 Concrete Sidewalk 8-Inch, Item SPV.0165.001.

A Description
This special provision describes constructing concrete sidewalk 8-inch in accordance to standard spec 602.

B Materials
Furnish materials that are in accordance to the pertinent requirements of standard spec 602.2.

C Construction
Construct in accordance to the pertinent requirements of standard spec 602.3.

D Measurement
The department will not measure Concrete Sidewalk 8-Inch. Measurement includes the area of the curb ramp and warning field. The department will use pay plan quantity according to standard spec 109.1.1.2.

E Payment
The department will pay for plan quantities according to standard spec 109.1.1.2 at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.001	Concrete Sidewalk 8-Inch	SF

Payment is in accordance to standard spec 602.5.

15.9 Concrete Sidewalk HES 8-Inch, Item SPV.0165.002.

A Description
This special provision describes constructing concrete sidewalk 8-inch using high early strength concrete as shown on the plans, directed by the engineer and as hereinafter provided.

B Materials
Furnish materials that are in accordance to the requirements of standard spec 602.2.

C Construction
Use construction methods conforming to standard spec 602.3.

Conform to standard spec 415.3.15 for opening to service.

D Measurement
The department will not measure Concrete Sidewalk HES 8-Inch. The department will use pay plan quantity according to standard spec 109.1.1.2.

E Payment
The department will pay for plan quantities according to standard spec 109.1.1.2 at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.002	Concrete Sidewalk HES 8-Inch	SF

Payment is in accordance to standard spec 602.5.

15.10 Colored and Stamped Concrete, 5-Inch, Item SPV.0180.001; 8-Inch, Item SPV.0180.002.

A Description
Construct colored and stamped concrete pavement in accordance to standard specs 405, 414, 416 and 716, as shown on the plans, and as hereinafter provided.

Concrete contractor must have experience successfully installing stamped and colored concrete and shall provide, upon engineer's request, a written list of references specific to stamped and colored concrete projects in the upper Midwest.

B Materials

B.1 Concrete

Conform to standard specs 405 and 415 and as follows:

Integrally color the concrete using non-fading synthetic iron oxides conforming to ASTM C979. Follow color pigment manufacturers recommendations for minimum and maximum percentage of loading by weight of the cementitious materials in the mix.

The integral color shall be buff and shall closely match to Federal Standard 595 Color Server, FS color 33510. Provide manufacturer's color chart for integral color to engineer for approval before use.

B.2 Concrete Curing

Supply a clear, non-yellowing liquid membrane-forming clear curing compound conforming to ASTM C 1315, Type 1 A

B.3 Mix Approval

B.3.1 General

Perform preliminary laboratory and/or field trial batching to establish the mix proportions necessary to meet the final concrete characteristics.

Submit to the engineer the final mix design including specific sources and/or trade names as applicable for all materials.

Concrete shall have a maximum 4" slump.

B.3.2 Test Panels

At an engineer-determined location on the project, place and finish a 10-foot by 10-foot by 5-inch colored concrete test panel using processes and techniques intended for use on permanent work, including curing procedures, stamping, coloring, and sealing.

The engineer will determine acceptance of the test panel color based on review and approval by Village of Howard representatives. Test panel color will be evaluated for approval no earlier than 5 days after the test panel was poured and sealed.

Prepare the concrete surfaces of the Colored and Stamped Concrete Test Panel using the same methods and materials outlined in this section.

B.4 Stamp

Use reusable elastomeric/urethane form liners of the architectural surface treatment(s) as detailed in the plans and hereinafter provided.

Pattern shall be random laid flagstone with 5/8” maximum relief and 3/8” average relief. Stone sizes shall be approximately 2” x 4” – 16” x 20”. Formliner shall exactly match the pattern and stamp that has been used on the US 41 / Shawano Ave project in other locations (i.e. Shawano-Taylor intersection). Provide sample formliner pattern to engineer for approval before use.

B.5 Antiquing Release Agent
Use an antiquing release agent that is compatible with the form liner and coloring materials.

The antiquing release agent color for the flagstone pattern and joints shall be light grey and shall closely match to Federal Standard 595 Color Server, FS color 34086.

Provide manufacturer’s color chart for antiquing release agents to engineer for approval before use.

B.6 Concrete Sealant
Use concrete sealant that is compatible with the form liner and installation methods.

Prime Sealant: Glossy.
Secondary Sealant: Matte.

C Construction
Construct colored concrete in accordance to standard specs 416 and 716 and as herein provided.

Coordinate locations of permanent signage requiring PVC pipe box outs per standard spec 634.3.2.

C.1 Form Liner (Stamp) Preparation
Clean the form liner prior to each pour and ensure that it is free of any build-up. Visually inspect each liner for blemishes or tears, and repair if necessary per manufacturer's recommendations.

C.2 Stamp
Coordinate with the engineer and to verify stamping pattern orientation prior to starting the stamping work.

Prepare stamp tools with a full, smooth coat of antiquing release agent.

While concrete is still in the plastic state, apply imprinting tools to the surface and press into the concrete to create the desired impression. Finish all surfaces uniformly.
Ensure that the textured surface is free of laitance; sandblasting is not permitted. Grind or fill any blemishes.

Shake or spray antiquing release agent over concrete surface.

Hand apply antiquing release agent to each individual joint line by spraying or rolling.

Stamping shall exactly match the work that has been done on the US 41 / Shawano Ave project in other locations (i.e. Shawano-Taylor intersection).

C.3 Finishing
Allow concrete to cure for 24 hours after application of the antiquing release agents and stamp pattern.

Pressure wash concrete surface to remove approximately 80% of the antiquing release agent.

Ensure that concrete is clean and dry before proceeding with concrete sealant.

Spray or roll on a single layer of gloss sealant. Follow by spraying on a single coat of matte finish sealer. Do not roll matte finish sealer onto concrete surfaces.

Finishing shall exactly match the finishing that has been done on the US 41 / Shawano Ave project in other locations (i.e. Shawano-Taylor intersection).

D Measurement
The department will measure Colored and Stamped Concrete, 5-Inch and Colored and Stamped Concrete, 8-Inch in accordance to standard spec 415.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.001	Colored and Stamped Concrete, 5-Inch	SY
SPV.0180.002	Colored and Stamped Concrete, 8-Inch	SY

Payment is full compensation for preparing the foundation, unless provided otherwise; for developing mix designs and providing sample panels or test panels; for furnishing materials (including concrete masonry, colored pigments, sealers, joint and bond breakers, and retarders), hauling, preparing, placing, curing, and protecting the concrete; for stamping ; for sawing required for construction of colored concrete; for jointing and joint materials, and tie bars; for measuring opening strength including fabricating and testing cylinders, obtaining and testing cores, and evaluating maturity; and for furnishing all removal of colored concrete.

15.11 Colored and Stamped Concrete 9-Inch, Item SPV.0180.003; 10-Inch, Item SPV.0180.004.

A Description

Construct colored and stamped concrete pavement in accordance to the standard specifications, as shown on the plans, and as hereinafter provided.

B Materials

B.1 Concrete

Conform to standard spec 501 of standard specification and as follows:

Integrally color the concrete using non-fading synthetic iron oxides conforming to ASTM C979 at a minimum percent loading of 6% and a maximum percent loading of 8% by weight of the cementitious materials in the mix.

Match the concrete color to Federal Standard 595 Color Server, FS color 31136.

Add integral concrete colorant according to manufacturer's instructions.

Maintain mix characteristics for all colored concrete requiring a matching finish. Use the same source, brand, type, and color of portland cement, supplementary cementitious materials, aggregates and admixtures for colored concrete throughout the project. Use constant cement content, supplementary cementitious material content and water/cementitious materials ratio in the concrete mix to maintain consistent color.

B.2 Concrete Curing

Supply a clear, non-yellowing liquid membrane-forming clear curing compound conforming to AASHTO M 148, type 1.

B.3 Admixtures

Use admixtures designed for use and compatible with colored concrete pigments. Do not use calcium chloride or admixtures containing chlorides.

B.4 Mix Approval

B.4.1 General

Perform preliminary laboratory and/or field trial batching to establish the mix proportions necessary to meet the final concrete characteristics.

Submit to the engineer the final mix design including specific sources and/or trade names as applicable for all materials.

B.4.2 Trial Batch

If the engineer deems necessary, produce test panels to demonstrate the typical texture, surface finish, color, and color intensity.

At an engineer-determined location on the project, place and finish a 6-foot by 6-foot by 9-inch colored concrete test panel using processes and techniques intended for use on permanent work, including curing procedures. Produce test panels using the same workers who will perform the contract work. Retain samples of cements, sands, aggregates and color additives used in test panels for comparison with materials used in remaining work. For an accurate representation of the desired color or color intensity, produce the colored concrete for the test panel in a minimum batch size of 2 cubic yards or in full cubic yard increments for batch sized greater than 2 cubic yards. Discard excess material.

The engineer will determine acceptance of the test panel color based on review and approval by Village of Howard representatives.

B.5. Stamp
Use reusable elastomeric/urethane form liners of the architectural surface treatment(s) as detailed in the plans and hereinafter provided.

Pattern shall be basketweave brick, 2 coursings wide for a total width of 12" to 16". Provide sample formliner pattern to engineer for approval before use.

B.6. Antiquing Release Agent
Use an antiquing powder release agent that is compatible with the form liner and coloring materials.

The antiquing release agent color shall be light grey and shall closely match to Federal Standard 595 Color Server, FS color 16251. Provide manufacturer's color chart for antiquing release agent to engineer for approval before use.

B.7. Concrete Sealant
Use concrete sealant that is compatible with the form liner and installation methods.

Prime Sealant: Glossy.
Secondary Sealant: Matte.

C Construction
Construct colored concrete in accordance to standard spec 416 and the standard special provision for QMP Concrete Ancillary and as herein provided.

C.1 Equipment
Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity and mechanical condition for the purposes intended. Repair, improve, replace or supplement all equipment that is not maintained in full working order, or which is proven inadequate to obtain the results prescribed.

C.2 Form Liner (Stamp) Preparation

Clean the form liner prior to each pour and ensure that it is free of any build-up. Visually inspect each liner for blemishes or tears, and repair if necessary per manufacturer's recommendations.

C.3 Placement

Produce colored concrete in full cubic yard increments.

Produce consistent colored concrete mixes. Once colored concrete placement has started, the engineer will not allow variations in the amounts, types, or source of materials with the exception of minor adjustments of water and air-entraining agent as necessary. Other changes require the contractor to repeat the mix approval process.

Colored concrete mixes for matching colored items shall be consistent. If the contractor chooses to provide mixes with high early strength concrete, then all colored concrete for matching colored items shall be provided as high early strength concrete.

Schedule colored concrete placement to minimize exposure to rapid drying conditions, wind and full sun, before curing materials are applied. Do not place colored concrete if rain, snow, or freezing temperature is forecast within 24-hours.

Cover and protect adjacent construction and concrete from discoloration and spillage during placement and curing of colored concrete. Remove and replace discolored concrete as the engineer directs.

Perform finishing operations consistently to avoid discoloration in the finished colored concrete. Do not begin finishing until bleed water has left the surface. Addition of surface water for aiding in finishing (often referred to as blessing the concrete) is not allowed. If water is added to the surface of the colored concrete once concrete is in place, the engineer will reject the colored concrete. During final finishing and texturing apply all strokes in the same direction.

Cure colored concrete in accordance to standard spec 415.3.12, using the impervious coating or impervious sheeting method. Protect colored concrete from premature drying and excessive cold or hot temperatures by prompt application of curing materials. Do not allow plastic sheeting to come in contact with colored concrete.

Shake or spray antiquing release agent over concrete surface after applying the color hardeners.

Protect the colored concrete from damage. Do not permit construction traffic or material storage on colored concrete. Exclude other foot traffic from colored concrete for at least 24 hours after placement.

C.4 Stamp
Coordinate with the engineer and to verify stamping pattern orientation prior to starting the stamping work. Match stamped basketweave border to other crosswalks within the Village of Howard. Engineer will provide contractor with sample photographs at the request of the contractor.

Prepare stamp tools with a full, smooth coat of antiquing release agent.

While concrete is still in the plastic state, apply imprinting tools to the surface and press into the concrete to create the desired impression. Finish all surfaces uniformly.
Ensure that the textured surface is free of laitance; sandblasting is not permitted. Grind or fill any blemishes.

Protect the colored and stamped concrete from damage. Do not permit construction traffic or material storage on colored concrete. Exclude other foot traffic from colored concrete for at least 24 hours after placement.

C.5 Finishing
Allow concrete to cure for 24 hours after application of the antiquing release agent and stamp pattern.

Pressure wash concrete surface to remove approximately 80% of the antiquing release agent.

Spray or roll on a single layer of gloss sealant. Follow by spraying on a single coat of matte finish sealer. Do not roll matte finish sealer onto concrete surfaces.

Protect the colored concrete from damage. Do not permit construction traffic or material storage on colored concrete. Exclude other foot traffic from colored concrete for at least 24 hours after finishing.

D Measurement
The department will measure Colored and Stamped Concrete Pavement (Inch) in accordance to standard spec 415.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.003	Colored and Stamped Concrete 9-Inch	SY
SPV.0180.004	Colored and Stamped Concrete 10-Inch	SY

Payment is full compensation for preparing the foundation, unless provided otherwise; for developing mix designs and providing sample panels or test panels; for furnishing materials (including concrete masonry, colored pigments, sealers, joint and bond breakers, and retarders), hauling, preparing, placing, curing, and protecting the concrete;

for sawing required for construction of colored concrete; for finishing the concrete with specified formliner (stamp) pattern as indicated in plans; for jointing and joint materials, and tie bars; for measuring opening strength including fabricating and testing cylinders, obtaining and testing cores, and evaluating maturity; and for furnishing all removal of colored concrete.

15.12 Colored Concrete 6-Inch, Item SPV.0180.005.

A Description

Constructed colored concrete pavement in accordance to the standard specifications, as shown on the plans, and as hereinafter provided.

B Materials

B.1 Concrete

Conform to standard spec 501 and as follows:

Integrally color the concrete using non-fading synthetic iron oxides conforming to ASTM C979 at a minimum percent loading of 6% and a maximum percent loading of 8% by weight of the cementitious materials in the mix.

Match the concrete color to medium grey, Federal Standard 595 Color Server, FS color 30475.

Add integral concrete colorant according to manufacturer's instructions.

Maintain mix characteristics for all colored concrete requiring a matching finish. Use the same source, brand, type, and color of Portland cement, supplementary cementitious materials, aggregates and admixtures for colored concrete throughout the project. Use constant cement content, supplementary cementitious material content and water/cementitious materials ratio in the concrete mix to maintain consistent color.

B.2 Concrete Curing

Supply a clear, non-yellowing liquid membrane-forming clear curing compound conforming to AASHTO M 148, type 1.

B.3 Admixtures

Use admixtures designed for use and compatible with colored concrete pigments. Do not use calcium chloride or admixtures containing chlorides.

B.4 Mix Approval

B.4.1 General

Perform preliminary laboratory and/or field trial batching to establish the mix proportions necessary to meet the final concrete characteristics.

Submit to the engineer the final mix design including specific sources and/or trade names as applicable for all materials.

B.4.2 Trial Batch
If the engineer deems necessary, produce test panels to demonstrate the typical texture, surface finish, color, and color intensity.

At an engineer-determined location on the project, place a and finish a 6-foot by 6-foot by 4-inch test panels using processes and techniques intended for use on permanent work, including curing procedures. Produce test panels using the same workers who will perform the contract work. Retain samples of cements, sands, aggregates and color additives used in test panels for comparison with materials used in remaining work. For an accurate representation of the desired color or color intensity, produce the colored concrete for the test panel in a minimum batch size of 2 cubic yards or in full cubic yard increments for batch sized greater than 2 cubic yards. Discard excess material.

The engineer will determine acceptance of the test panel color base on review and approval by the Village of Howard representatives.

C Construction
Construct colored concrete in accordance to standard spec 416 and the standard special provision for QMP Concrete Ancillary and as herein provided.

C.1 Equipment
Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity and mechanical condition for the purposes intended. Repair, improve, replace or supplement all equipment that is not maintained in full working order, or which is proven inadequate to obtain the results prescribed.

C.2 Placement
Produce colored concrete in full cubic yard increments.

Produce consistent colored concrete mixes. Once colored concrete placement has started, the engineer will not allow variations in the amounts, types, or source of materials with the exception of minor adjustments of water and air-entraining agent as necessary. Other changes require the contractor to repeat the mix approval process.

Colored concrete mixes for matching colored items shall be consistent. If the contractor chooses to provide mixes with high early strength concrete, then all colored concrete for matching colored items shall be provided as high early strength concrete.

Schedule colored concrete placement to minimize exposure to rapid drying conditions, wind and full sun, before curing materials are applied. Do not place colored concrete if rain, snow, or freezing temperature is forecast within 24-hours.

Cover and protect adjacent construction and concrete from discoloration and spillage during placement and curing of colored concrete. Remove and replace discolored concrete as the engineer directs.

Perform finishing operations consistently to avoid discoloration in the finished colored concrete. Do not begin finishing until bleed water has left the surface. Addition of surface water for aiding in finishing (often referred to as blessing the concrete) is not allowed. If water is added to the surface of the colored concrete once concrete is in place, the engineer will reject the colored concrete. During final finishing and texturing apply all strokes in the same direction.

The final finish/texture shall be a medium broom finish.

Cure colored concrete in accordance to standard spec 415.3.12, using the impervious coating or impervious sheeting method. Protect colored concrete from premature drying and excessive cold or hot temperatures by prompt application of curing materials. Do not allow plastic sheeting to come in contact with colored concrete.

Protect the colored concrete from damage. Do not permit construction traffic or material storage on colored concrete. Exclude other foot traffic from colored concrete for at least 24 hours after placement.

D Measurement
The department will measure Colored Concrete 6-Inch in accordance to standard spec 415.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.005	Colored Concrete 6-Inch	SF

Payment is full compensation for preparing the foundation, unless provided otherwise; for developing mix designs and providing sample panels or test panels; for furnishing materials (including concrete masonry, colored pigments, sealers, joint and bond breakers, and retarders), hauling, preparing, placing, curing, and protecting the concrete; for sawing required for construction of colored concrete; for jointing and joint materials, and tie bars; for measuring opening strength including fabricating and testing cylinders, obtaining and testing cores, and evaluating maturity; and for all removal of colored concrete.

15.13 Colored Concrete Pavement 9-Inch, Item SPV.0180. 006; 10-Inch, Item SPV.0180.007.

A Description
Construct colored concrete pavement in accordance to the standard specifications, as shown in the plans, and as hereinafter provided.

B Materials

B.1 Concrete

Conform to standard specs 405 and 415 and as follows:

Integrally color the concrete using non-fading synthetic iron oxides conforming to ASTM C979. Follow color pigment manufacturers recommendations for minimum and maximum percentage of loading by weight of the cementitious materials in the mix.

The integral color shall be Red and shall closely match to Federal Standard 595 Color Server, FS color 31136. Provide manufacturer's color chart for integral color to engineer for approval before use.

Maintain mix characteristics for all colored concrete requiring a matching finish. Use the same source, brand, type, and color of portland cement, supplementary cementitious materials, aggregates and admixtures for colored concrete throughout the project. Use constant cement content, supplementary cementitious material content and water/cementitious materials ratio in the concrete mix to maintain consistent color.

B.2 Concrete Curing

Supply a clear, non-yellowing liquid membrane-forming clear curing compound conforming to ASTM C 1315, Type 1 A

B.3 Admixtures

Use admixtures designed for use and compatible with colored concrete pigments. Do not use calcium chloride or admixtures containing chlorides.

B.4 Mix Approval

B.4.1 General

Perform preliminary laboratory and/or field trial batching to establish the mix proportions necessary to meet the final concrete characteristics.

Submit to the engineer the final mix design including specific sources and/or trade names as applicable for all materials.

Concrete shall have a maximum 4" slump.

B.4.2 Test Panels

If the engineer deems necessary, produce test panels to demonstrate the typical texture, surface finish, color, and color intensity.

At an engineer-determined location on the project, place and finish a 6-foot by 6-foot by 9-inch colored concrete test panel using processes and techniques intended for use on permanent work, including curing procedures. Produce test panels using the same workers who will perform the contract work. Retain samples of cements, sands, aggregates and color additives used in test panels for comparison with materials used in remaining work. For an accurate representation of the desired color or color intensity,

produce the colored concrete for the test panel in a minimum batch size of 2 cubic yards or in full cubic yard increments for batch sized greater than 2 cubic yards. Discard excess material.

The engineer will determine acceptance of the test panel color based on review and approval by Village of Howard representatives. Test panel color will be evaluated for approval no earlier than 5 days after the test panel was poured and sealed.

Prepare the concrete surfaces of the colored concrete pavement test panel using the same methods and materials outlined in this section.

B.5. Concrete Sealant
Use concrete sealant that is compatible with installation methods.

Prime Sealant: Glossy.
Secondary Sealant: Matte.

C Construction
Construct colored concrete in accordance to standard specs 405 and 415 and as herein provided.

C.1 Equipment
Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity and mechanical condition for the purposes intended. Repair, improve, replace or supplement all equipment that is not maintained in full working order, or which is proven inadequate to obtain the results prescribed.

C.2 Placement
Produce colored concrete in full cubic yard increments.

Produce consistent colored concrete mixes. Once colored concrete placement has started, the engineer will not allow variations in the amounts, types, or source of materials with the exception of minor adjustments of water and air-entraining agent as necessary. Other changes require the contractor to repeat the mix approval process.

Colored concrete mixes for matching colored items shall be consistent. If the contractor chooses to provide mixes with high early strength concrete, then all colored concrete for matching colored items shall be provided as high early strength concrete.

Schedule colored concrete placement to minimize exposure to rapid drying conditions, wind and full sun, before curing materials are applied. Do not place colored concrete if rain, snow, or freezing temperature is forecast within 24-hours.

Cover and protect adjacent construction and concrete from discoloration and spillage during placement and curing of colored concrete. Remove and replace discolored concrete as the engineer directs.

Perform finishing operations consistently to avoid discoloration in the finished colored concrete. Do not begin finishing until bleed water has left the surface. Addition of surface water for aiding in finishing (often referred to as blessing the concrete) is not allowed. If water is added to the surface of the colored concrete once concrete is in place, the engineer will reject the colored concrete. During final finishing and texturing apply all strokes in the same direction.

Cure colored concrete in accordance to standard spec 415.3.12, using the impervious coating or impervious sheeting method. Protect colored concrete from premature drying and excessive cold or hot temperatures by prompt application of curing materials. Do not allow plastic sheeting to come in contact with colored concrete.

Protect the colored concrete from damage. Do not permit construction traffic or material storage on colored concrete. Exclude other foot traffic from colored concrete for at least 24 hours after placement.

C.3 Finishing
Ensure that concrete is clean and dry before proceeding with concrete sealant.

Spray or roll on a single layer of gloss sealant. Follow by spraying on a single coat of matte finish sealer. Do not roll matte finish sealer onto concrete surfaces.

Protect the colored concrete from damage. Do not permit construction traffic or material storage on colored concrete. Exclude other foot traffic from colored concrete for at least 24 hours after finishing.

D Measurement
The department will measure Colored Concrete Pavement 9-Inch and Colored Concrete Pavement 10-Inch in accordance to standard specs 405 and 415.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.006	Colored Concrete Pavement 9-Inch	SY
SPV.0180.007	Colored Concrete Pavement 10-Inch	SY

Payment is full compensation for preparing the foundation, unless provided otherwise; for developing mix designs and providing sample panels or test panels; for furnishing materials (including concrete masonry, colored pigments, sealers, joint and bond breakers, and retarders), hauling, preparing, placing, curing, and protecting the concrete; for sawing required for construction of colored concrete; for finishing the concrete as indicated in the plans; for jointing and joint materials, and tie bars; for measuring opening strength including fabricating and testing cylinders, obtaining and testing cores, and evaluating maturity; and for all removal of colored concrete.

16. Signing and Marking.

16.1 Blue Specific Service Signs.

Supplement standard spec 638.3.4 with the following:

Do not remove or move blue specific service signs or their associated posts. Specific service signs are signs with logos that identify commercial entities providing gas, food, lodging, camping, or attractions. A separate contractor, Interstate Logos - Wisconsin, is responsible for these signs. Contact Interstate Logos - Wisconsin at (844) 496-9163 a minimum of 14 calendar days in advance to coordinate removing, moving, or re-installation of these signs.

The contractor is responsible for damage done to these signs due to contractor operations. 638-010 (20140630)

16.2 Notice to Contractor – Sign Blanks.

Sign Structure built under previous contracts may have sign blanks installed on the. Removals of these sign blanks are incidental to installation of new signs. Removed sign blanks becomes property of the contractor.

16.3 Notice to Contractor – Village of Howard Signs

Notify the Village of Howard one week before closing Velp Avenue or Memorial Drive to allow removal of their street signs and no parking signs. Contact Geoff Farr at (920) 434-4060.

16.4 Removing Pavement Marking.

Perform this work in accordance to standard spec 646.3.4 and as hereinafter provided.

Pavement Markings required to be removed on permanent pavement (pavement that will remain at the completion of the contract) will be blasted off the pavement. Grinding the markings off the pavement will not be allowed.

After removing pavement markings, re-apply clear protective surface treatment conforming to standard spec 502.2.11 where it was removed from structures. Seal exposed concrete, including grooves for tape, and over the pavement marking.

16.5 Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch, Item 646.0841.S; 8-Inch, Item 646.0843.S.

A Description

This special provision describes furnishing, grooving and installing preformed wet reflective pavement marking contrast tape for grooved applications as shown on the plans, according to standard spec 646, and as hereinafter provided.

B Materials

Furnish wet reflective pavement marking contrast tape and adhesive material, per manufacturer's recommendation if required, from the department's approved products list.

Furnish a copy of the manufacturer's recommendations to the engineer before preparing the pavement marking grooves.

C Construction

C.1 General

For quality assurance, provide the engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of pavement marking contrast tape.

Plane the grooved lines according to details in the plan and per manufacturer's recommendations. Use grooving equipment with a free-floating, independent cutting head. Plane a minimum number of passes to create a grooved surface per manufacturer's recommendations.

C.2 Groove Depth

Cut the groove to a depth of 120 mils ± 10 mils from the pavement surface or, if tined, from the high point of the tined surface. To measure the depth, the contractor may use a depth plate placed in the groove and a straightedge placed across the plate and groove, or the contractor may use a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Longitudinal Markings

Cut the groove one-inch wider than the width of the tape.

C.4 Groove Position

Position the groove edge according to plan details. Groove a minimum of 4 inches, but not greater than, 12 inches from both ends of the tape segment. Achieve straight alignment with the grooving equipment.

C.5 Groove Cleaning

C.5.1 Concrete

Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with high-pressure water after cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and the pavement marking tape. Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to

clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 New Asphalt
Groove pavement five or more days after paving.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.5.3 Existing Asphalt
Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.6 Tape Application
Apply the tape when both the air and surface temperature are 40 degrees F and rising.

Apply tape in the groove as per manufacturer's recommendations. If manufacturer's recommendations require surface preparation adhesive

1. For the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee:

   • Apply SPA-60 during May 1 to September 30, both dates inclusive due to Volatile Organic Compound Limitations..

   • Apply P-50 during October 1 to April 30, both dates inclusive. –

2. For the remainder counties:

   • Apply either adhesive.

Refer to the manufacturer's instructions for determining when the surface preparation adhesive is set.

Tamp the wet reflective pavement marking contrast tape with a tamper cart roller, with a minimum of a 200-lb load, cut to fit the groove. Tamp a minimum of three complete cycles (6 passes) with grooved modified tamper roller cart.

D Measurement
The department will measure Pavement Marking Grooved Wet Reflective Contrast Tape (Width) for grooved applications in length by the linear foot of tape placed according to the contract and accepted.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF
646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; and for removing temporary pavement marking, if necessary.

646-022 (20120615)

16.6 Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 1, Item SPV.0060.300; Arrows, Type 2, Item SPV.0060.301; Arrows, Type 3, Item SPV.0060.302; Arrows, Type 2R, Item SPV.0060.303; Arrows, Type 3R, Item SPV.0060.304; Arrows, Type 6, Item SPV.0060.305; Words, Item SPV.0060.306.; Arrows, Type 5, Item SPV.0060.310.

A Description

This special provision describes work in accordance to standard spec 646, and as hereinafter provided.

A.1

The markings must be a resilient white, yellow, or other color thermoplastic product, wherein every other shaped portion contains glass beads or abrasives with a minimum hardness of 7 (Mohs scale). The marking must be resistant to the detrimental effects of motor fuels, lubricants, hydraulic fluids, etc. Lines, legends and symbols are capable of being affixed to bituminous and/ or Portland cement concrete pavements by the use of the normal heat of a propane torch.

A.2

The markings must be capable of conforming to pavement contours, breaks, and faults through the action of traffic at normal pavement temperatures. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastic when heated with the torch.

A.3

The marking shall not have minimum ambient and road temperature requirements for application, storage, or handling.

B Materials

Must be composed of an ester modified resin resistant to degradation by motor fuels, lubricants etc. in conjunction with aggregates , pigments, binders abrasives, and glass beads which have been factory produced as a finished product, and meets the requirements of the current edition of the Manuel on Uniform Traffic Control Devices for Streets and Highways. The thermoplastic material conforms to AASHTO designation M249-70 (98), with the exception of the relevant differences due to the material being supplied in a performed state.

B.1 Graded Glass Beads

B.1.1

The material must contain a minimum of thirty percent (30%) intermixed graded glass beads by weight. The intermixed beads shall be clear and transparent. Not more than 20 percent consists of irregular fused spheroids, or silica. The index of refraction shall not be less than 1.50.

B.1.2

The material must have factory applied coated surface beads and abrasives in addition to the intermixed beads at a rate of 1/2lb. (+/- 20%) per 11 sq ft. The surface beads and abrasives must be applied so that every other shaped portion contains glass beads, or abrasives with a minimum hardness of 7(Mohs scale).These factory applied coated surface beads shall have the following specifications:

1) Minimum 80% rounds
2) Minimum refractive index of 1.5
3) Minimum SiO_2 content of 70%;
4) Maximum iron content of 0.1%;

Size Gradation		Retained, %	Passing, %
US Mesh	Um		
12	1700	0-2%	98 – 100%
14	1400	0 – 6%	94 – 100%
16	1180	1 – 21%	79 – 99%
18	1000	28 – 62%	38 – 72%
20	850	62 – 71%	29 – 38%
30	600	67 – 77%	23 – 33%
50	300	86 – 95%	5 – 14%
80	200	97 – 100%	0 – 3%

B.2 Pigments

B.2.1 White

The material shall be manufactured with sufficient titanium dioxide pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected.

B.2.2 Red, Blue, and Yellow

The material shall be manufactured with sufficient titanium dioxide pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected. The yellow pigments must be organic and must be heavy-metal free.

B.2.3 Other Colors
The pigments must be heavy-metal free.

B.3 Heating Indicators
The top surface of the material (same side as the factory applied surface beads) shall have regularly spaced indents. These indents act as a visual cue during application that the material has reached a molten state so satisfactory adhesion and proper bead embedment has been achieved and a post–application visual cue that the installation procedures have been followed.

B.4 Skid Resistance
The surface of the preformed retroreflective materials, wherein every other shaped portion contains glass beads, or abrasives with a hardness of 7 (Mohs scale), shall upon application provide a minimum skid resistance value of 60 BPN when tested according to ASTM: E 303.

B.5 Thickness
The material must be supplied at a minimum thickness of 90 mils (2.29 mm).

B.6 Retroreflectivity
The preformed retroreflective marking materials upon application shall exhibit adequate and uniform nighttime retroreflectivity. The marking materials shall have the following retroreflectivity as measured using a Delta LTL 2000 or LTL-X Retroreflectometer.

White preformed reflective marking materials-minimum of 275 med-m^{-2}-lx^{-1}

Note: Initial retroreflection and skid resistance are affected by the amount of heat applied during installation. When ambient temperatures are such that greater amounts of heat are required for proper installation, initial retroreflection and skid resistance levels may be affected

B.7 Environmental Resistance
The material must be resistant to deterioration due to exposure to sunlight, water, salt or adverse weather conditions and impervious to oil and gasoline.

B.8 Abrasives
The material must have a factory applied surface adhesives, wherein every other shaped portion contains glass beads, or abrasives with a minimum hardness of 7(Mohs scale).

C Application
C.1
Location of Pavement Marking Grooved Preformed Thermoplastic Arrows Type X and Pavement Marking Grooved Preformed Thermoplastic Words shall be approved by engineer prior to installations.

Apply preformed marking as the manufacturer specifies, the pavement shall be grooved to receive the preformed material and the leading edge of all installations shall be heated and beveled; provide the engineer with the manufacturer's specifications. Cut groove to a depth of 100 mils +/- 10 mils. The groove may be 0 to 4 inches from the perimeter of the special marking. The engineer will evaluate the performance of the preformed marking as specified in standard spec 646.3.3.4.

C.2 Asphalt

The Materials shall be applied using the propane torch method recommended by the manufacturer. The material must be able to be applied without minimum requirements for ambient and road temperatures and without any preheating of the pavement to a specific temperature. The material must able to be applied without the use of a thermometer. The pavement shall be clean, dry and free of debris. Supplier must enclose application instructions with each box/package.

C.3 Portland Concrete

The same application procedure shall be used as described under section C2. However a compatible sealer may be applied before application to assure proper adhesion.

D Measurement

The department will measure the Pavement Marking Grooved Preformed Thermoplastic Arrows, (Type) and Pavement Marking Grooved Preformed Thermoplastic Words by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.300	Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 1	Each
SPV.0060.301	Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 2	Each
SPV.0060.302	Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 3	Each
SPV.0060.303	Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 2R	Each
SPV.0060.304	Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 3R	Each
SPV.0060.305	Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 6	Each
SPV.0060.306	Pavement Marking Grooved Preformed Thermoplastic Words	Each
SPV.0060.310	Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 5	Each

Payment is full compensation for furnishing, locating and installation of pavement marking.
(NER41-20101001)

16.7 Removing Traffic Control Type I Sign Covering Other Contracts, Item SPV.0060.012.

A Description
This special provision describes removing temporary sign covering for Type I signs that were placed under other contracts.

B (Vacant)

C Construction
Remove the sign cover panel when it is no longer appropriate.

D Measurement
The department will measure Removing Traffic Control Type I Sign Covering Other Contracts as each individual removed sign cover (not placed with 1133-03-71, 1133-03-73, or 9202-07-71), acceptably completed.

Multiple coverings and removals of sign coverings on the same sign or sign assembly will be paid for separately.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.012	Removing Traffic Control Type I Sign Covering Other Contracts	Each

Payment is full compensation for Removing Traffic Control Type I Sign Covering Other Contracts. All sign covers removed after placement with this contract to be paid with other pertinent bid item.

16.8 V-LOC Sign Anchors, Item SPV.0060.250.

A Description
This special provision describes furnishing and installing breakaway sign anchoring systems at the locations shown on the plans and as hereinafter provided.

B Materials
Provide a breakaway sign anchoring system meeting the following requirements which accommodates a 2x2-inch square tubular steel sign post:

TAPCO V-LOC System

Model #	Application
200-VS1	Concrete
200-VS2	Normal Soil
200-VS3	Loose Soil

C Construction

Complete installation of the sign anchoring system in accordance to the manufacturer's specifications and as directed by the engineer.

Install the sign anchoring system so that posts, when inserted into the V-LOC sign anchoring system, will be in a true vertical position. Remove and replace any V-LOC sign anchoring systems damaged or installed that do not produce a true vertical position of the sign post at no expense to the department. Install the V-LOC sign anchoring system within concrete areas during placement of the concrete.

D Measurement

The department will measure V-LOC Sign Anchors as each location, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.250	V-LOC Sign Anchors	Each

Payment is full compensation for furnishing and delivering all materials and required hardware; for installing sign anchors and required attachments; and for disposing of surplus material.

The department will make payment for the tubular steel posts under the pertinent items provided in the contract.
(NER41-20110120)

16.9 Pavement Marking Grooved Preformed Thermoplastic, Crosswalk 6-Inch, Item SPV.0090.307; 8-Inch, Item SPV.0090.308; 18-Inch, Item SPV.0090.309.

A Description

This special provision describes work in accordance to standard spec 646, and as hereinafter provided.

A.1
The markings must be a resilient white, yellow, or other color thermoplastic product, wherein every other shaped portion contains glass beads or abrasives with a minimum hardness of 7 (Mohs scale). The marking must be resistant to the detrimental effects of motor fuels, lubricants, hydraulic fluids, etc. Lines, legends and symbols are capable of being affixed to bituminous and/ or Portland cement concrete pavements by the use of the normal heat of a propane torch.

A.2
The markings must be capable of conforming to pavement contours, breaks, and faults through the action of traffic at normal pavement temperatures. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastic when heated with the torch.

A.3
The marking shall not have minimum ambient and road temperature requirements for application, storage, or handling.

B Materials
Must be composed of an ester modified resin resistant to degradation by motor fuels, lubricants etc. in conjunction with aggregates , pigments, binders abrasives, and glass beads which have been factory produced as a finished product, and meets the requirements of the current edition of the Manuel on Uniform Traffic Control Devices for Streets and Highways. The thermoplastic material conforms to AASHTO designation M249-70 (98), with the exception of the relevant differences due to the material being supplied in a performed state.

B.1 Graded Glass Beads
B.1.1
The material must contain a minimum of thirty percent (30%) intermixed graded glass beads by weight. The intermixed beads shall be clear and transparent. Not more than twenty Percent (20%) consists of irregular fused spheroids, or silica. The index of refraction shall not be less than 1.50.

B.1.2
The material must have factory applied coated surface beads and abrasives in addition to the intermixed beads at a rate of 1/2lb. (+/- 20%) per 11 sq ft. The surface beads and abrasives must be applied so that every other shaped portion contains glass beads, or abrasives with a minimum hardness of 7(Mohs scale).These factory applied coated surface beads shall have the following specifications:

1) Minimum 80% rounds
2) Minimum refractive index of 1.5
3) Minimum SiO_2 content of 70%;
4) Maximum iron content of 0.1%;

Size Gradation		Retained, %	Passing, %
US Mesh	Um		
12	1700	0-2%	98 – 100%
14	1400	0 – 6%	94 – 100%
16	1180	1 – 21%	79 – 99%
18	1000	28 – 62%	38 – 72%
20	850	62 – 71%	29 – 38%
30	600	67 – 77%	23 – 33%
50	300	86 – 95%	5 – 14%
80	200	97 – 100%	0 – 3%

B.2 Pigments

B.2.1 White

The material shall be manufactured with sufficient titanium dioxide pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected.

B.2.2 Red, Blue, and Yellow

The material shall be manufactured with sufficient titanium dioxide pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected. The yellow pigments must be organic and must be heavy-metal free.

B.2.3 Other Colors

The pigments must be heavy-metal free.

B.3 Heating Indicators

The top surface of the material (same side as the factory applied surface beads) shall have regularly spaced indents. These indents act as a visual cue during application that the material has reached a molten state so satisfactory adhesion and proper bead embedment has been achieved and a post–application visual cue that the installation procedures have been followed.

B.4 Skid Resistance

The surface of the preformed retroreflective materials, wherein every other shaped portion contains glass beads, or abrasives with a hardness of 7 (Mohs scale), shall upon application provide a minimum skid resistance value of 60 BPN when tested according to ASTM: E 303.

B.5 Thickness

The material must be supplied at a minimum thickness of 100 mils (2.29 mm).

B.6 Retroreflectivity
The preformed retroreflective marking materials upon application shall exhibit adequate and uniform nighttime retroreflectivity. The marking materials shall have the following retroreflectivity as measured using a Delta LTL 2000 or LTL-X Retroreflectometer.

White preformed reflective marking materials-minimum of 275 med-m^{-2}-lx^{-1}

Note: Initial retroreflection and skid resistance are affected by the amount of heat applied during installation. When ambient temperatures are such that greater amounts of heat are required for proper installation, initial retroreflection and skid resistance levels may be affected.

B.7 Environmental Resistance
The material must be resistant to deterioration due to exposure to sunlight, water, salt or adverse weather conditions and impervious to oil and gasoline.

B.8 Abrasives
The material must have a factory applied surface adhesives, wherein every other shaped portion contains glass beads, or abrasives with a minimum hardness of 7(Mohs scale).

C Application
C.1
Location of Pavement Marking Grooved Preformed Thermoplastic, 4-Inch; 8-Inch; Yield Line and Crosswalk shall be approved by engineer prior to installations.

Apply preformed marking as the manufacturer specifies. Groove the pavement to receive the preformed material and the leading edge of all installations shall be heated and beveled; provide the engineer with the manufacturer's specifications. Cut groove to a depth of 100 mils +/- 10 mils. The engineer will evaluate the performance of the preformed marking as specified in standard spec 646.3.3.4.

C.2 Asphalt
The Materials shall be applied using the propane torch method recommended by the manufacturer. The material must be able to be applied without minimum requirements for ambient and road temperatures and without any preheating of the pavement to a specific temperature. The material must able to be applied without the use of a thermometer. The pavement shall be clean, dry and free of debris. Supplier must enclose application instructions with each box/package.

C.3 Portland Concrete
The same application procedure shall be used as described under section C2. However a compatible sealer may be applied before application to assure proper adhesion.

D Measurement
The department will measure the Pavement Marking Grooved Preformed Thermoplastic, (Inch) by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.307	Pavement Marking Grooved Preformed Thermoplastic, Crosswalk, 6-Inch	LF
SPV.0090.308	Pavement Marking Grooved Preformed Thermoplastic, 8-Inch	LF
SPV.0090.309	Pavement Marking Grooved Preformed Thermoplastic, 18-Inch	LF

Payment is full compensation for furnishing, locating and installation of pavement marking.
(NER41-20110217)

17. Lighting/Electrical.

17.1 General Requirements for Electrical Work.

Amend standard spec 651.2, Materials, by adding the following paragraphs:

(7) The approved products list is located at:
http://www.dot.wisconsin.gov/business/engrserv/electric/index.htm

17.2 Electrical Work By Others.

Under projects 1133-10-75 and 1133-10-77, the Wisconsin Department of Transportation Northeast Region Electrical Unit will perform the following work for all WisDOT owned electrical systems:

- Verify the location of all concrete bases.
- Verify the configuration and orientation of cabinet bases and adjacent pullboxes.
- Provide identification numbers for sequence plaques.

Contact information for the Wisconsin Department of Transportation Northeast Region Electrical Unit: Robert Schuurmans / (920) 492-5710 / Robert.schuurmans@dot.wi.gov.

Under project 1133-10-75, the Village of Howard will perform the following work for all Village owned electrical systems:

- Furnish all poles, arms and luminaires and associated hardware for contractor installation.

Contact information for the Village of Howard: Geoffrey Farr / (920) 434-4060 / gfarr@villageofhoward.com.

17.3 Concrete Bases Type 5, Item 654.0105; Concrete Bases Type 7, Item 654.0107.

A Description
This work shall be in accordance to the requirements of standard spec 654, the plans, standard detail drawings, and as hereinafter provided.

B Materials
In accordance to the plans and standard spec 654.2 and as hereinafter provided.

Furnish a rigid form as required to set the location of all concrete bases in areas with retaining wall backfill. A rigid form shall maintain the required shape without deflection during retaining wall backfill operations.

C Construction
In accordance to the plans and standard spec 654.3 and as hereinafter provided.

Install a rigid form as required to set the location of all concrete bases in areas with retaining wall backfill. This item may require locating the horizontal and vertical position of the concrete base during the retaining wall backfill operation. Rigid forms shall be set plumb and shall be placed to avoid retaining wall soil stabilization straps. Excavation for the concrete bases may not be allowed after the retaining wall backfill is completed. Verify the locations of all concrete bases are accurately represented on the contractor-designed wall plans as submitted to the engineer. Coordinate all construction activities as required.

D Measurement
The department will measure the Concrete Bases Type 5 and Type 7 bid item as each individual base, acceptably completed.

E Payment
In accordance to the plans and standard spec 654.5 and as hereinafter provided.

Payment includes furnishing and installing a rigid form; and for coordination with retaining wall construction operations.

17.4 Electrical Service Meter Breaker Pedestal (CB-500), Item 656.0200.001; Electrical Service Meter Breaker Pedestal (CB-600), Item 656.0200.002.

A Description
This work shall be in accordance to the requirements of standard spec 656, the plans, standard detail drawings, and as hereinafter provided.

B Materials

Amend standard spec 656.2.3, Meter Breaker Pedestal Service, paragraph (1) to read as follows:

(1) Furnish an approved service having a meter breaker pedestal, 22,000-AIC circuit breakers unless the local utility requires otherwise, grounding electrodes and connections, conduit and fittings, and all necessary conductors and equipment required by the WSEC and the utility for a service connection. Furnish a pedestal with two 100 A 2-pole breakers for any meter with shared ITS uses which are intended to provide electrical service for a WisDOT street lighting system as well as an ITS camera system. Additional breakers are not required for non-shared meter pedestals. When the meter breaker pedestal is energized, install an approved meter seal at all access points on the meter trough. Meter shall be time of use type.

Amend standard spec 656.2.3, Meter Breaker Pedestal Service, by adding the following paragraph:

(2) Furnish meter pedestal with a painted finish. Paint meter pedestal using an epoxy primer and topcoat to match the lighting control cabinet finish.

(3) Feeder wire between meter pedestal and main panel board shall be routed through the bottom of the cabinet enclosure and within conduit. Entry through the side of the cabinet closure is not allowed.

C Construction

Amend standard spec 656.3.2, Service Lateral, paragraph (1) to read as follows:

(1) The local utility shall furnish and install a 200 A, 120/240 volt AC, single phase, 3-wire underground electrical service lateral. Arrange and assume responsibility for the timely installation of the service lateral by the utility. The lateral shall be terminated at a meter pedestal as the plans show.

Submit the application to the utility for all required electrical services. Pay the utility installation costs promptly and seek reimbursement through the "Electrical Service Lateral" administrative contract bid item.

Arrange for future monthly energy usage billing to be established in the name of the appropriate entity. Contact the Village of Howard and WisDOT Northeast Region for this information.

Ensure that electrical service is installed and energized a minimum of one week prior to the lighting system activation deadline.

D Measurement

The department will measure the Electrical Service Meter Breaker Pedestal bid item as a single lump sum for each service, acceptably completed.

E Payment
In accordance to the plans and standard spec 656.5.

17.5 Electrical Service Main Lugs Only Meter Pedestal (CB-200), Item 656.0400.001; Electrical Service Main Lugs Only Meter Pedestal (CB-300), Item 656.0400.002; Electrical Service Main Lugs Only Meter Pedestal (CB-400), Item 656.0400.003.

A Description
Perform work in accordance to the requirements of standard spec 656, the plans, standard detail drawings, and as hereinafter provided.

B Materials
Amend standard spec 656.2.5, Main Lugs Only Meter Pedestal Service, by adding the following paragraph:

(2) Meter shall be time of use type.

(3) Feeder wire between meter pedestal and main panel board shall be routed through the bottom of the cabinet enclosure and within conduit. Entry through the side of the cabinet enclosure is not allowed.

C Construction
Amend standard spec 656.3.2, Service Lateral, paragraph (1) to read as follows:

(1) The local utility shall furnish and install a 200 A, 240/480 volt AC, single phase, 3-wire underground electrical service lateral. Arrange and assume responsibility for the timely installation of the service lateral by the utility. The lateral shall be terminated at a meter pedestal as the plans show.

Submit the application to the utility for all required electrical services. Pay the utility installation costs promptly and seek reimbursement through the "Electrical Service Lateral" administrative contract bid item.

Arrange for future monthly energy usage billing to be established in the name of the appropriate entity. Contact WisDOT Northeast Region for this information.

Ensure that electrical service is installed and energized a minimum of one week prior to the lighting system activation deadline.

D Measurement
The department will measure the Electrical Service Main Lugs Only Meter Pedestal bid item as a single lump sum for each service acceptably completed.

E Payment
In accordance to the plans and standard spec 656.5.

17.6 Poles Type 5-Aluminum, Item 657.0322.

A Description
This work shall be in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials
In accordance to the plans and standard spec 657.2 and as hereinafter provided.

Poles are required to include internal vibration damping per stated requirements in standard spec 654.2. Provide documentation that vibration damping mechanism(s) provided by the pole manufacturer will be rated to withstand movement anticipated from attachment to the tub girder flyover structure parapets. Documentation is required with material submittal information as described in standard spec 651.2.

C Construction
In accordance to the plans and standard spec 657.3.

D Measurement
The department will measure the Poles Type 5-Aluminum bid item as each individual base, acceptably completed.

E Payment
In accordance to the plans and standard spec 657.5.

17.7 Underdeck Lighting (R-05-234), Item 659.0600.001; Underdeck Lighting (R-05-235), Item 659.0600.002.

A Description
Perform work in accordance to the requirements of standard spec 659, the plans, standard detail drawings, and as hereinafter provided.

B Materials
In accordance to the plans and standard spec 659.2 and as hereinafter provided.

Furnish stainless steel whisker type bird spikes on top of all horizontal underdeck lighting equipment surfaces including, but not limited to luminaires, junction boxes, conduit bodies and miscellaneous supports.

C Construction
In accordance to the plans and standard spec 659.3 and as hereinafter provided.

Install bird spikes in accordance to the manufacturer specifications and as required to rigidly mount the spikes while still allowing for removal during maintenance activities.

D Measurement
The department will measure the Underdeck Lighting (Location) bid item as a single lump sum unit for each structure, acceptably completed.

E Payment
In accordance to the plans and standard spec 659.5 and as hereinafter provided.

Payment includes furnishing and installing bird spikes including all necessary incidental materials.

17.8 Polymer Concrete Pullbox, Item SPV.0060.351.

A Description
This work shall be in accordance to the requirements of standard spec 653, the plans, standard detail drawings, and as hereinafter provided.

B Materials
B.1 Pullbox
Polymer Concrete Pullbox shall be gray colored polymer concrete construction. Box dimensions shall be 13" wide X 24" long X 12" deep and come with a cover rated to withstand 8,000 lbs. Each cover shall have the logo "STREET LIGHTING" imprinted from the manufacturer.

B.2 Aggregate
Furnish an aggregate base in accordance to the plans and pertinent provisions of standard spec 305.2.

C Construction
Install Polymer Concrete Pullbox in accordance to the pertinent provisions of standard spec 653.3 and as the manufacturer directs.

D Measurement
The department will measure Polymer Concrete Pullbox as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.351	Polymer Concrete Pullbox	Each

Payment is full compensation for furnishing and installing all materials, including crushed aggregate; for excavation, backfill, and disposal of surplus materials.

17.9 Concrete Bases Type 7 Median, Item SPV.0060.353.

A Description
This work shall be in accordance to the requirements of standard spec 654, the plans, standard detail drawings, and as hereinafter provided.

B Materials
Amend standard spec 654.2, Materials, by adding the following paragraph:

(1) Furnish asphaltic material as required to restore disturbed areas adjacent to the concrete bases conforming to the requirements in standard spec 465.2 paragraph (2).

C Construction
Amend standard spec 654.3, Construction, by adding the following paragraphs:

(4) Sawcut HMA surfaces as required to begin auguring for the concrete bases in accordance to standard spec 690.3.2.

(5) Restore areas adjacent to the concrete bases with asphaltic surfacing materials in accordance to standard spec 465.3.

D Measurement
The department will measure Concrete Bases Type 7 Median as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.353	Concrete Bases Type 7 Median	Each

Payment is full compensation for providing concrete bases; for embedded conduit and electrical components; for anchor rods, nuts and washers; for bar steel reinforcement; for sawing HMA pavement, excavating, backfilling, restoring asphaltic surfaces, and disposing of surplus materials.

17.10 Concrete Base Median Barrier Type 1, Item SPV.0060.354; Concrete Base Median Barrier Type 2, Item SPV.0060.355; Concrete Base Median Barrier Type 3, Item SPV.0060.356.

A Description
This work shall be in accordance to the requirements of standard spec 654, the plans, standard detail drawings, and as hereinafter provided.

B Materials

B.1 Concrete Bases

In accordance to standard spec 654.2.1, Concrete Bases.

B.2 Junction Boxes

Furnish 24 X 18 X 8 – inch hot-dipped zinc coated cast iron junction boxes with a recessed cover. Junction box shall meet NEMA 4 standards for protection against windblown dust and rain and splashing water. Furnish standard covers with stainless steel hex-head mounting bolts with each box assembly. Boxes shall have a neoprene gasket with provision for allowing drainage out of the box.

Junction boxes shall be furnished with factory installed mounting buttons as required to attach grounding lugs and mechanical connectors as shown on the plans. Provide engineer-approved protection that totally and permanently seals connections with a silicone or rubberized caulk.

Concrete Base Median Barrier Type 1 – One junction box per base required.
Concrete Base Median Barrier Type 2 – One new contractor furnished junction box and one 24X18X12-inch state furnished junction box per base required.
Concrete Base Median Barrier Type 3 – one 12X24X8-inch state furnished junction box per base required.

B.3 Electrical Wiring Connectors

Furnish rubber insulated submersible secondary connectors rated for copper conductors (minimum 12 AWG) as required for splicing in each location. Secondary connectors shall include silicone grease and CO-OX oxide inhibitor and meet the performance requirements of ANSI C119.1 and C119.4.

B.4 Conduit, Fittings and Expansion/Deflection Couplings

Furnish rigid metallic and schedule 40 PVC conduit and fittings as shown on the plans conforming to the pertinent provisions of standard spec 652, Electrical Conduit.

Furnish UL listed expansion/deflection coupling joints as shown on the plans. Expansion/deflection coupling joints shall be rated for use with rigid metallic conduit and provide a watertight and corrosion resistant connection which allows for movement in all directions. Couplings shall maintain a constant inner diameter and provide a smooth insulated wireway for protection of the conductors. Couplings shall include an integral bonding jumper.

Refer to the plans and details to determine the number of deflection couplings needed per base.

B.5 Expansion Material

Furnish 3/4-inch expansion material in accordance to standard spec 415.2.3, Expansion Joint Filler. Use elastic type joint filler to seal the surface of the expansion joint.

C Construction
Construct concrete bases in accordance to standard spec 654.3, Construction,.

Install junction boxes as shown in the plans and as the manufacturer directs.

Install expansion/deflection couplings as the manufacturer directs. Coordinate the connection of the conduit into the receiving roadway barrier prior to pouring the concrete base.

All secondary connectors and miscellaneous wiring, fusing and grounding connections shall be installed in accordance to standard spec 659.3.2, Wiring and Fusing and as the manufacturer directs.

D Measurement
The department will measure Concrete Base Median Barrier (Type) as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.354	Concrete Base Median Barrier Type 1	Each
SPV.0060.355	Concrete Base Median Barrier Type 2	Each
SPV.0060.356	Concrete Base Median Barrier Type 3	Each

Payment for the Concrete Base Median Barrier bid item is full compensation for providing all materials including conduit, couplings, bushings, caps or plugs, or both, anchor rods, nuts, washers, expansion material, grounding electrodes, exothermic welds, copper equipment grounding conductors, bar steel reinforcement, junction boxes, and concrete; and for excavating, backfilling, and disposing of surplus materials.

17.11 Double Lighting Cabinet Base, Item SPV.0060.357.

A Description
This work shall be in accordance to the requirements of standard spec 654, the plans, standard detail drawings, and as hereinafter provided.

B Materials
In accordance to the plans and standard spec 654.2.

C Construction
In accordance to the plans and standard spec 654.3 and as hereinafter provided.

This item includes measuring the cabinets to ensure proper sizing and location of electrical conduit stubs. Provide verification and obtain approval from the engineer prior to pouring the base.

D Measurement
The department will measure Double Lighting Cabinet Base as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.357	Double Lighting Cabinet Base	Each

Payment for the Bases bid item is full compensation for providing concrete bases; for embedded conduit and electrical components; for anchor rods, nuts and washers; for bar steel reinforcement; for aggregate, excavating, backfilling, restoring asphaltic surfaces, and disposing of surplus materials.

17.12 Concrete Base Type W, Item SPV.0060.358.

A Description
This work shall be in accordance to the requirements of standard spec 654, the plans, standard detail drawings, and as hereinafter provided.

B Materials
In accordance to the plans and standard spec 654.2.

C Construction
In accordance to the plans and standard spec 654.3.

D Measurement
The department will measure Concrete Base Type W as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.358	Concrete Base Type W	Each

Payment is full compensation in accordance to standard spec 654.5.

17.13 Poles Type 5-Aluminum Black, Item SPV.0060.359.

A Description
This work shall be in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials
Amend standard spec 657.2.1, Poles, paragraph (7) to read as follows:

Construct poles of aluminum materials having sufficient rigidity that, with all material installed and in place as the plans show, the centerline of the shaft appears vertical. Include vibration dampers in all poles.

Amend standard spec 657.2.1, Poles, by adding the following paragraphs:

(23) Furnish all poles with a manufacturer applied black anodized finish. Poles anodized after purchase from the manufacturer will not be accepted without approval from the engineer. Pole cap, nut covers and associated materials shall have a matching anodized finish.

C Construction
In accordance to the plans and standard spec 657.3.

D Measurement
The department will measure Poles Type 5–Aluminum Black as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.359	Poles Type 5-Aluminum Black	Each

Payment for the Poles bid items is full compensation for providing all materials, including poles, all hardware and fittings necessary to install the pole; for providing an anodized finish.

17.14 Transformer Bases Breakaway 11 1/2-Inch Bolt Circle Black, Item SPV.0060.360.

A Description
This work shall be in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials
Amend standard spec 657.2.6, Transformer Bases, paragraph (1) to read as follows:

(1) Furnish cast aluminum alloy transformer bases designed as specified for traffic signal support structures in standard spec 657.2.1(1) and selected from the department's approved products list. Ensure that castings are true to pattern in form and dimensions and free from pouring faults, sponginess, cracks, sharp edges, blow holes, and other defects in positions affecting strength and value for the service intended. Furnish all bases

with a manufacturer applied black anodized finish. Bases anodized after purchase from the manufacturer will not be accepted without approval from the engineer.

C Construction
In accordance to the plans and standard spec 657.3.

D Measurement
The department will measure Transformer Bases Breakaway 11 1/2-Inch Bolt Circle Black as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.360	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle Black	Each

Payment for the Transformer Bases bid items is full compensation for providing the transformer base, mechanical grounding connector, and related hardware; for leveling shims if required; and for providing an anodized finish.

17.15 Luminaire Arms Truss Type 4 1/2-Inch Clamp 12-FT Black, Item SPV.0060.361; Luminaire Arms Truss Type 4-Inch Clamp 12-FT Black, Item SPV.0060.352.

A Description
This work shall be in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials
Amend standard spec 657.2.3.2, Aluminum Arms, paragraph (5) to read as follows:

(5) Furnish a clean luminaire arm with a manufacturer applied black anodized finish. Arms anodized after purchase from the manufacturer will not be accepted without approval from the engineer. Brackets, fitters and associated materials shall have a matching anodized finish.

C Construction
In accordance to the plans and standard spec 657.3.

D Measurement
The department will measure Luminair Arms Truss Type (Inch) Clamp 12-FT Black as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.361	Luminaire Arms Truss Type 4 1/2-Inch Clamp 12-FT Black	Each
SPV.0060.352	Luminaire Arms Truss Type 4-Inch Clamp 12-FT Black	Each

Payment for the Luminaire Arms bid items is full compensation for providing all materials, including all hardware, fittings, mounting clamps, shims if required; for providing an anodized finish, and all attachments necessary to completely install the luminaire arm.

17.16 Luminaires Utility LED Category C Black, Item SPV.0060.362.

A Description
This work shall be in accordance to the requirements of standard spec 659, the plans, standard detail drawings, and as hereinafter provided.

B Materials
In accordance to the plans and standard spec 659.2 and as hereinafter provided:

Furnish all luminaires with black colored housing.

C Construction
In accordance to the plans and standard spec 659.3.

D Measurement
The department will measure Luminaires Utility LED Category C Black as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.362	Luminaires Utility LED Category C Black	Each

Payment is full compensation conforming to standard spec 659.5.

17.17 Lighting Control Cabinet – Freeway, Item SPV.0060.363.

A Description
This special provision describes furnishing and installing a Lighting Control Cabinet. Work under this item shall be in accordance to the Standard Specifications, the qualified products list, this special provision, and the plans.

B Materials

B.1 General

Furnish a 240/480 volt - single phase Lighting Control Cabinet from the WisDOT qualified electrical products list, with the equipment alterations noted hereinafter.

B.2 Enclosure

Furnish enclosure with minimum width of 30 inches. Maintain applicable Code working clearances between equipment mounted within the enclosure.

B.3 Load Center

Furnish a 200 amp - 240/480 volt - 22 kA - 20 (min.) position load center with 200 amp main breaker (type A cabinet) - 100 amp main breaker (type B cabinet). Furnish feeder and branch circuit breakers as detailed in panelboard schedules in the plans.

B.4 Termination Blocks

Furnish termination blocks as detailed in the panelboard schedules in the plans. All exit feeder terminal blocks, including ground lugs shall accept #10 AWG (CU) through 1/0 AWG (CU) wires.

B.5 Step-Down Transformer with Primary and Secondary Overcurrent Protection

Furnish a 3 KVA - 240/480V to 120/240V commercial grade, dry type, step-down transformer with primary overcurrent protection to feed 120V loads as detailed in the cabinet schematic drawings. Furnish DIN nail mounted secondary breakers complete with all necessary mounting provisions and DIN nail end caps, as detailed in the plans.

B.6 Light Bar and Receptacle

Furnish a 20 ampere - 120 volt - commercial grade - GFI duplex receptacle. Furnish a galvanized steel outlet box with cover and a 3 watt (max.) - 120 volt - commercial grade – 13 (approx.) LED light bar. Light mounting position at the top of the cabinet to reduce glare. Furnish switch to turn on cabinet light by opening the cabinet door.

B.7 Contactors

Furnish 2 pole - 240 volt coil contactors as detailed in the cabinet schematics and plans.

B.8 Incidental Materials

Furnish necessary wiring, miscellaneous accessories, and hardware as required for a complete and fully operational unit.

C Construction

Install the cabinet and necessary wiring, miscellaneous accessories, and hardware as required for a complete and fully operational unit. Follow manufacturer instructions for installation.

Exposed threaded equipment mounting hardware shall be stainless steel. Coat threaded stainless steel hardware and dissimilar metal threaded hardware with an approved zinc-based anti-seize compound.

D Measurement
The department will measure Lighting Control Cabinet – Freeway as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.363	Lighting Control Cabinet – Freeway	Each

Payment is full compensation for furnishing and installing all materials, including cabinet, wiring, conduits, accessories, hardware and fittings necessary to install the cabinet.

17.18 Lighting Control Cabinet – Roundabout, Item SPV.0060.364.

A Description
This special provision describes furnishing and installing a Lighting Control Cabinet. Work under this item shall be in accordance to the standard specifications, the qualified products list, this special provision, and the plans.

B Materials
B.1 General
Furnish a 120/240 volt - single phase Lighting Control Cabinet from the WisDOT qualified electrical products list, with the equipment alterations noted hereinafter.

B.2 Enclosure
Furnish enclosure with minimum width of 30 inches. Maintain applicable Code working clearances between equipment mounted within the enclosure.

B.3 Load Center
Furnish a 100 amp - 120/240 volt - 22 kA - 30 position (min.) - main lugs only type load center. Furnish feeder and branch circuit breakers as detailed in panelboard schedules in the plans. Service main breaker to be located in the meter pedestal.

B.4 Termination Blocks
Furnish termination blocks as detailed in the panelboard schedules in the plans. All exit feeder terminal blocks, including ground lugs shall accept #10 AWG (CU) through 1/0 AWG (CU) wires.

B.5 Light Bar and Receptacle
Furnish a 20 ampere - 120 volt - commercial grade - GFI duplex receptacle. Furnish a galvanized steel outlet box with cover and a 3 watt (max.) - 120 volt - commercial grade – 13 (approx.) LED light bar. Light mounting position at the top of the cabinet to reduce glare. Furnish switch to turn on cabinet light by opening the cabinet door.

B.6 Incidental Materials
Furnish necessary wiring, miscellaneous accessories, and hardware as required for a complete and fully operational unit.

C Construction
Install the cabinet and necessary wiring, miscellaneous accessories, and hardware as required for a complete and fully operational unit. Follow manufacturer instructions for installation.

Exposed threaded equipment mounting hardware shall be stainless steel. Coat threaded stainless steel hardware and dissimilar metal threaded hardware with an approved zinc-based anti-seize compound.

D Measurement
The department will measure Lighting Control Cabinet – Roundabout as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.364	Lighting Control Cabinet – Roundabout	Each

Payment is full compensation for furnishing and installing all materials, including cabinet, wiring, conduits, accessories, hardware and fittings necessary to install the cabinet.

17.19 Anchor Bolt Cover Shroud, Item SPV.0060.365.

A Description
This work shall be in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials
Furnish aluminum cover shroud in accordance to the plans and standard spec 657.2.2.5 and as hereinafter provided:

Housing and cover plate shall be 12 gauge aluminum. Rivets for attaching the cover plate to the housing shall be aluminum and sized in accordance to the specifications determined by the fabricator of the unit. Provide non metallic washers between cover shroud and steel lock washer.

C Construction
In accordance to the plans and standard spec 657.3 and as hereinafter provided:

Follow all manufacturer installation guidelines for installation of cover shroud and accessories. Apply silicone sealant between the top of the cover shroud body and the aluminum cover plate.

D Measurement
The department will measure Anchor Bolt Cover Shroud as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.365	Anchor Bolt Cover Shroud	Each

Payment is full compensation for providing all materials; and installing a complete unit.

17.20 Lighting Control Cabinet - Local, Item SPV.0060.366.

A Description
This special provision describes furnishing and installing a lighting control cabinet with all electrical components and wiring assembled.

B Materials
B.1 Contactors
Furnish an open type - multi-pole - 30 Amp - 600V - electrically held contactor with 120V control coil for each proposed lighting and receptacle circuit.

B.2 Photocell
Furnish a button type photocell and install as shown on the plans. Apply silicone caulk to maintain the watertight integrity of the enclosure. The photocell shall be rated for 120V - 1500 watt with 30-60 second delay between “on-off” operations.

B.3 Panel
Furnish a 120/240 volt – single phase - 100 amp – 24 position (min.) - main lugs only type panel board in a 18” (approximate) wide NEMA 1 enclosure. Provide copper ground and split neutral bus bars in addition to copper bus bars. Provide thermal-magnetic circuit breakers that clearly indicate ON, OFF, or TRIPPED position in the panel. Panel shall be compatible with Square D circuit breakers.

B.4 Selector Switches
Furnish “Hand-Off-Auto” switches to control each street lighting circuit separately. Provide a “Hand-Off-Auto” legend plate for each switch. Mount the switches adjacent to the respective contactor.

B.5 Cabinet Enclosure

Provide a NEMA 3R enclosure made from .125" Type 5052-H32 aluminum. The doorframe shall be double flanged and all exterior seams shall be ground smooth. Door handle shall be 3/4" diameter stainless steel with three point latching system and hasp. Main door shall be sealed with a closed-cell neoprene gasket. Main door hinge shall be continuous 0.075” thick stainless steel with a 0.25” stainless steel hinge pin. Provide an aluminum-mounting panel at back (interior) of enclosure.

Cabinet to have built in ventilation for natural and forced air circulation to remove heat. All cabinet openings to be filtered or guarded to prevent contaminants and liquids from entering the enclosure. Provide a weatherproof pad lock with 2-3/8” wide body, repinnable/ replacable cylinder, and five keys. There shall be no Corbin main door lock. Applicable code working clearances shall be maintained between equipment mounted within the enclosure.

All exterior hardware shall be pretreated with an iron phosphate coating and powder coat painted black and dried by radiant heat.

B.6 Surge Arrester

Furnish a surge suppressor to protect the panel board. The surge suppressor shall provide 6 modes of surge protection, meet UL1449 Second Edition with 32Ka per phase and 48KA system peak surge current, contain LED line indicators, and approximate dimensions of 4.54”Hx2.58”Wx2.22”D. Connect the surge suppressor to the branch circuit breaker as indicated on the plans.

B.7 Field Wiring Termination Blocks

All connections from the field wiring to equipment in the lighting control cabinet shall be made through termination blocks. Provide quantity of channel mount, NEMA type single terminal blocks as indicated on plans that are capable of holding #12 to #1/0 wire with solderless box lugs, for power, neutral and grounding connections. Mount the terminal blocks on a mounting channel of appropriate length with end anchors and an end barrier. Each terminal block shall have a label indicating the appropriate circuit number, neutral (‘N’) or ground (‘G’) wire connected to block; handwritten numbers and letters are not acceptable means of identification. Make connections from the underground field wiring to the equipment in the lighting control cabinet through distribution blocks.

B.8 Light Bar and Receptacle

Furnish a 20 ampere - 120 volt - commercial grade - GFI duplex receptacle. Furnish a galvanized steel outlet box with cover and a 3 watt (max.) - 120 volt - commercial grade – 13 (approx.) LED light bar. Light mounting position at the top of the cabinet to reduce glare. Furnish switch to turn on cabinet light by opening the cabinet door.

B.9 Fan

Furnish a 120 volt thermostat controlled cabinet fan. Fan shall have 15-degree increment setting with a range between 90 – 150 degrees Fahrenheit. Mount and set thermostatic control as the Village of Howard directs.

B.10 Incidental Materials
Secure all wiring using screw attachment type straps; adhesive type shall not be allowed.

Furnish conduit in accordance to standard spec 652.2, Materials and electrical wiring in accordance to standard spec 655.2, Materials as required from the meter socket to the cabinet lugs.

C Construction
Assemble the control cabinet as shown on the plans. Pretest the cabinet prior to shipment to the site. Mount all equipment to panel in enclosure. Train the cables in straight horizontal and vertical directions and be parallel next to and adjacent to other cables whenever possible. Mount the cabinet to the concrete base per the manufacturer's requirements. The work under this bid item includes connection and termination to the feeder system wiring.

Install conduit in accordance to standard spec 652.3, Construction and electrical wiring in accordance to standard spec 655.3, Construction as required from the meter socket to the panelboard lugs.

D Measurement
The department will measure Lighting Control Cabinet – Local as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.366	Lighting Control Cabinet - Local	Each

Payment is full compensation for furnishing and installing photo control, contactors, panel, distribution blocks, surge arrestor, enclosure, grounding, wiring and electrical components; and for mounting to the concrete base.

17.21 Fiberglass Street Light Pole – Install Only, Item SPV.0060.367.

A Description
This work shall be in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials
The Village of Howard will furnish materials and accessories including poles, bolt covers, festoon receptacles and covers, tenon top fitters, installation instructions and miscellaneous hardware.

Furnish all incidental materials as required to complete the installation.

C Construction
In accordance to the plans and standard spec 657.3 and as hereinafter provided:

Obtain and transport materials from the Village of Howard Public Works facility located at 1336 Cornell Road, Green Bay, WI, 54313. Contact Geoff Farr at (920) 434-4060/ gfarr@villageofhoward.com a minimum of 7-days prior to arrival. Inspect the condition of all materials prior to loading or transporting. Accept all liability for the original condition of all furnished materials upon transporting to the project site.

Follow all manufacturer installation guidelines for transport and installation of poles and accessories.

D Measurement
The department will measure Fiberglass Street Light Pole – Install Only as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.367	Fiberglass Street Light Pole – Install Only	Each

Payment is full compensation for transporting all materials; and for installing a complete unit.

17.22 Street Light Mast Arm 10 Foot – Install Only, Item SPV.0060.368.

A Description
This work shall be in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials
The Village of Howard will furnish materials and accessories including luminaire arm, installation instructions and miscellaneous hardware.

Furnish all incidental materials as required to complete the installation.

C Construction
In accordance to the plans and standard spec 657.3 and as hereinafter provided:

Obtain and transport materials from the Village of Howard Public Works facility located at 1336 Cornell Road, Green Bay, WI, 54313. Contact Geoff Farr at (920) 434-4060 / gfarr@villageofhoward.com a minimum of 7-days prior to arrival. Inspect the condition of all materials prior to loading or transporting. Accept all liability for the original condition of all furnished materials upon transporting to the project site.

Follow all manufacturer installation guidelines for transport and installation of arms and accessories.

D Measurement
The department will measure Street Light Mast Arm 10 Foot – Install Only as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.368	Street Light Mast Arm 10 Foot – Install Only	Each

Payment is full compensation for transporting all materials; and for installing a complete unit.

17.23 Box Style Luminaire LED – Install Only, Item SPV.0060.369.

A Description
This work shall be in accordance to the requirements of standard spec 659, the plans, standard detail drawings, and as hereinafter provided.

B Materials
The Village of Howard will furnish materials and accessories including luminaires, lamps, installation instructions and miscellaneous hardware.

Furnish all incidental materials as required to complete the installation.

C Construction
In accordance to the plans and standard spec 659.3 and as hereinafter provided:

Obtain and transport materials from the Village of Howard Public Works facility located at 1336 Cornell Road, Green Bay, WI, 54313. Contact Geoff Farr at (920) 434-4060 / gfarr@villageofhoward.com a minimum of 7-days prior to arrival. Inspect the condition of all materials prior to loading or transporting. Accept all liability for the original condition of all furnished materials upon transporting to the project site.

Follow all manufacturer installation guidelines for transport and installation of luminaires and accessories.

D Measurement
The department will measure Box Style Luminaire LED – Install Only as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.369	Box Style Luminaire LED – Install Only	Each

Payment is full compensation for transporting all materials; and for installing a complete unit.

17.24 Pullbox Drain Duct, Item SPV.0090.370.

A Description
This work shall be in accordance to the requirements of standard spec 652, the plans, standard detail drawings, and as hereinafter provided.

B Materials
In accordance to the plans and standard spec 652.2 and as hereinafter provided:

Furnish pullbox drain duct to an open ditch or storm sewer inlet in locations as shown on the plans. Drain duct shall be a 2-inch (inside diameter) conduit with minimum rating for light duty underground electrical installations.

Both ends of the drain duct shall be permanently capped to prevent access by rodents and insects. Drill eight ½-inch diameter holes in each end to allow for drainage.

C Construction
In accordance to the plans and standard spec 652.3 and as hereinafter provided:

Install drain duct in locations as shown on the plans; and at any pullbox locations that are constructed in a sump position with all conduits pitched towards the pullbox.

Install drain duct outlet to an open ditch to a point 4-inches from the slope intercept (not exposed). Terminate the drain duct into a 12” X 12” X 12” section of #2 coarse aggregate in accordance to the material requirements of standard spec 501. Grade the aggregate surface to match surrounding slopes.

Install drain duct to storm sewer structures by coring the wall of the structure or by penetrating through the adjusting rings. Drain duct shall extend between 2” (minimum) – 4” (maximum) beyond the inner wall of the structure. All storm sewer structure openings shall be grouted shut after drain duct installation is complete.

D Measurement
The department will measure Pullbox Drain Duct by the linear foot, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.370	Pullbox Drain Duct	LF

Payment for the Pullbox Drain Duct bid item is full compensation for providing the duct, fittings, caps, aggregate and all other incidental materials; and for excavating, backfilling, disposing of surplus materials and for making inspections.

17.25 Remove Luminaire, Item SPV.0060.371.

A Description
This special provision describes removing the luminaires from the existing street lighting units.

B (Vacant)

C Construction
Contact Robert Schuurmans (920)-492-5710 at least seven days prior to removing any luminaires on the WisDOT system. WisDOT will de-energize existing lighting circuits prior to removal of any luminaires.

Carefully remove and stockpile all luminaires at a location approved by the engineer. Place all equipment on blocks so as not to be in direct contact with the ground. Protect luminaires from moisture. The lights shall be made available for WisDOT salvage. Properly dispose of any equipment that WisDOT does not salvage.

Replace any equipment damaged in the removal process with equipment that is of greater or equal quality than the damaged piece.

Remove the luminaire while preserving all existing wiring and the luminaire arm intact.

D Measurement
The department will measure Remove Luminaire as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.371	Remove Luminaire	Each

Payment is full compensation for removals and disposal as required above.

18. Intelligent Transportation Systems (ITS).

18.1 Intelligent Transportation Systems – Control of Materials.

Standard spec 106.2 – Supply Source and Quality
Supplement standard spec 106.2 with the following:

The department will furnish a portion of equipment to be installed by the contractor. This department-furnished equipment includes the following:

Department-Furnished Items
2 – Pole, 50', Freeway, with Lowering System
1 – Pole, 80', Freeway, with Lowering System
2 – Cabinet, Pole-Mounted, CCTV
2 – Camera, outdoor, dome, analog
2 – Encoder, video mpeg 2/4 (hardened) 1-channel
2 – Combination ethernet switch and terminal server with fiber ports – single mode
10 – Termination Panel, Fiber Optic, 6 Count, ST, Furnish Only
1,835 feet – Cable, fiber optic, 6 count, dielectric, furnish only
4,350 feet – Cable, fiber optic, 12 count, dielectric, furnish only
13,205 feet – Cable, fiber optic, 36 count, dielectric, furnish only
52,140 feet – Cable, fiber optic, 72 count, dielectric, furnish only
5 – Detector, serial data interface microwave radar

Coordinate pickup of department-furnished equipment with Randy Asman of the WisDOT NE Region at (920) 492-7719. Depending on the department-furnished item, pickup may occur at any of the following locations:

- WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304
- WisDOT Statewide Traffic Operations Center, 433 W. St. Paul Ave., Milwaukee, WI 53203
- Traffic and Parking Control Company (TAPCO), 5100 W Brown Deer Road, Brown Deer, WI 53223

Transportation of the equipment between the electric shop and the field or interim location(s) shall be the responsibility of the contractor.

Standard spec 106.3 – Approval of Materials
Supplement standard spec 106.3 with the following:

Design/Shop Drawings
Prior to the purchase and/or fabrication of any of the components listed herein, and no more than 30 days after notice to proceed, submit five copies of design drawings and shop drawings, as required, to the department for review. The items and the drawings that represent them shall meet the requirements of the standard specifications.

Design drawing submissions shall consist of signed and certified designs, design drawings, calculations, and material specifications for required items.

Shop drawings will be required for, but not limited to the following:

1. Mounting assemblies for the vehicle speed and classification sensors, including their attachment to the structure.
2. Mounting LED warning signs to the sign structure.
3. Mounting detail for dynamic message signs.
4. Any contractor-designed structure or foundation.

The department will complete its review of the material within 30 days from the date of receipt of the submission, unless otherwise specified. The department will advise the contractor, in writing, as to the acceptability of the material submitted. The department may determine that if no exceptions were taken for the item, it is approved, and no further action is required by the contractor; or the item may be partially or totally rejected, in which case modify and/or amend the submittal as required by the department and resubmit the item within 14 days. At this time, the review and approval cycle described above will begin again.

18.2 Intelligent Transportation Systems – General Requirements.

A Description

A.1 General

This contract includes furnishing and installing elements for an Intelligent Transportation System (ITS) in or along the existing roadway as shown on the plans.

Unusual aspects of this project include:

• The project includes working on cables and equipment that are carrying data between roadside equipment and the department's Statewide Traffic Operations Center (STOC). If an interruption is determined necessary, it must be done on a weekend, and must be done in a way that minimizes communication outages for the existing equipment. Notify Randy Asman of the WisDOT NE Region at (920) 492-7719 at least 48 hours in advance of the planned interruption.

• The department will furnish some of the equipment to be installed. Make a reasonable effort to discover defects in that equipment prior to installing it.

A.2 Surge Protection

Equip every ungrounded conductor wire entering or leaving any equipment cabinet with a surge protector. For purposes of this section, multiple cabinets on a single pole or foundation are considered a single cabinet.

B Materials

B.1 General

Only furnish equipment and component parts for this work that are new and have high quality workmanship. All controls, indicators, and connectors shall be clearly and permanently labeled in a manner approved by the engineer. All equipment of each type shall be identical.

All electrical equipment shall conform to the standards and requirements of the Wisconsin Electrical Code, the National Electrical Manufacturers Association (NEMA), National Electric Safety Council (NESC), Underwriter's Laboratory Inc. (UL) or the Electronic Industries Association (EIA), when applicable. All materials and workmanship shall conform to the requirements of the National Electrical Code (NEC), Rural Electrification Administration (REA), Standards of the American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO), requirements of the plans these special provisions, the standard specifications, and to any other codes, standards, or ordinances that may apply. All system wiring, conduit, grounding hardware and circuit breakers shall be in conformance with the National Electrical Code. Whenever reference is made to any of the standards mentioned, the reference shall be considered to mean the code, ordinance, or standard that is in effect at the time of the bid advertisement.

B.2 Outdoor Equipment

All conductive connectors, pins (except pins connected by soldering), and socket contacts shall be gold plated. Acrylic conformal coating shall protect each circuit board side that has conductive traces. Except for integrated circuits containing custom firmware, all components shall be soldered to the printed circuit board.

To prevent galvanic corrosion, all connections between dissimilar metals shall incorporate a means of keeping moisture out of the connection. Where the connection need not conduct electricity, interpose a non-absorbing, inert material or washer between the dissimilar metals. Use nonconductive liners and washers to insulate fasteners from dissimilar metals. Where the connection must conduct electricity, use a conductive sealant between the dissimilar metals. Alternatively, use an insulating gasket and a bond wire connecting the two metal parts.

B.3 Custom Equipment

Equipment that is not part of the manufacturer's standard product line, or that is made or modified specifically for this project, shall conform to the following requirements:

Where practical, electronics shall be modular plug-in assemblies to facilitate maintenance. Such assemblies shall be keyed to prevent incorrect insertion of modules into sockets.

All components shall be available from multiple manufacturers as part of the manufacturers' standard product lines. All must be clearly labeled with the value, part number, tolerance, or other information sufficient to enable a technician to order an exact replacement part.

Lamps used for indicator purposes shall be light-emitting diodes.

The printed circuit boards shall be composed of "two-ounce" copper on 1/16-inch thick fiberglass epoxy or equivalent type construction. Holes that carry electrical connections from one side of the boards to the other shall be completely plated through. Multilayer printed circuit boards shall not be used. The name or reference number used for the board in the drawings and maintenance manuals supplied to the department shall be permanently affixed to each board.

All components shall be mounted so that the identifying markings are visible without moving or removing any part, if practical.

B.3 Environmental Conditions

Equipment shall continue to operate as specified under the following ranges of environmental conditions, except as noted in the specifications for individual pieces of equipment.

1. **Vibration and Shock:** Vehicle speed and classification sensors and any other equipment mounted atop poles or on structures shall not be impaired by the continuous vibration caused by winds (up to 90 mph with a 30 percent gust factor) and traffic.
2. **Duty Cycle: Continuous**
3. **Electromagnetic Radiation:** The equipment shall not be impaired by ambient electrical or magnetic fields, such as those caused by power lines, transformers, and motors. The equipment shall not radiate signals that adversely affect other equipment.
4. **Electrical Power:**

a. **Operating power:** The equipment shall operate on 120-volts, 60-Hz, single-phase unless otherwise specified. It shall conform to its specified performance requirements when the input voltage varies from 89 to 135 volts and the frequency varies +3 Hz.

b. **High frequency interference:** The equipment operation shall be unaffected by power supply voltage spikes of up to 150 volts in amplitude and 10 microseconds duration.

c. **Line voltage transients:** The equipment operation shall be unaffected by voltage transients of plus or minus 20 percent of nominal line voltage for a maximum duration of 50 milliseconds. Equipment in the field shall meet the power service transient requirements of NEMA Standard TS-2 when connected to the surge protectors in the cabinets.

5. **Temperature and Humidity:**

a. **Field equipment:** Equipment in the field shall meet the temperature and humidity requirements of NEMA Standard TS-2. Liquid crystal displays shall be undamaged by temperatures as high as 165 degrees F, and shall produce a usable display at temperatures up to 120 degrees F.

b. **Equipment in Controlled Environments** shall operate normally at any combination of temperatures between 50 degrees F and 100 degrees F, and humidity's between 5 percent and 90 percent, non-condensing, and with a temperature gradient of 9 degrees F per hour.

B.4 Patch Cables and Wiring

All cables and wiring between devices installed in a single cabinet, in separate cabinets sharing a single concrete base, or between a pole-mounted cabinet and equipment sharing the same pole will be considered incidental to the installation of the devices and no separate payment will be made for them. It is anticipated that this will include fiber optic patch cables between termination panels and Ethernet switches, 10 / 100 MBPS Ethernet cables, RS-232 cables between individual devices and terminal servers, and power cables between individual devices and power sources within the cabinets.

B.5 Surge Protection

Low-voltage signal pairs, including twisted pair communication cable(s) entering each cabinet shall be protected by two-stage, plug-in surge protectors and shall be installed on both ends of camera control cables. The protectors shall meet or exceed the following minimum requirements:

- The protectors shall suppress a peak surge current of up to 10k amps.
- The protectors shall have a response time less than one nanosecond.
- The protector shall clamp the voltage between the two wires at a voltage that is no more than twice the peak signal voltage, and clamp the voltage between each wire and ground at 50 volts.
- The first stage of protection shall be a three-element gas discharge tube, and the second stage shall consist of silicon clamping devices.
- The protector shall also contain a resettable fuse (PTC) to protect against excessive current.
- There shall be no more than two pairs per protector.

It shall be possible to replace the protector without using tools.

Cables carrying power to curve signs shall be protected at the cabinet by grounded metal oxide varistors of appropriate voltages. The varistors must be at least 0.8 inch in diameter.

C Construction

C.1 Thread Protection

Provide rust, corrosion, and anti-seize protection at all thread assemblies of metallic parts by coating (non-spray) the mating surfaces with an approved compound. Failure to use an approved compound will result in no payment for the items to which coating was to have been applied.

C.2 Cable Installation

When installing new cables into conduits containing existing cables, remove the existing cables and reinstall the existing cables simultaneously with the new cables. Take every precaution necessary to protect the existing cables. In the event of avoidable damage to the existing cables, replace all damaged cables, in-kind, at no additional expense to the department. When cables are pulled into conduit, use a cable pulling lubricant approved by the cable manufacturer. Submit documentation supporting manufacturer approval of the lubricant to the engineer.

C.3 Wiring

Every conductor, except a conductor contained entirely within a single piece of equipment, must terminate either in a connector or on a terminal block. Provide and install the connectors and terminal blocks where needed, without separate payment. Use approved splice kits instead of connectors and terminal blocks for underground power cable splices.

Permanently label and key connectors to preclude improper connection. Obtain prior engineer approval for the labeling method(s) prior to use.

Terminal blocks must be affixed to panels that permanently identify the block and what wire connects to each terminal. This may be accomplished by silk screening or by installing a laminated printed card under the terminal block, with the labels on portions of the card that extend beyond the block. Installation of terminal blocks by drilling holes in the exterior wall of the cabinet is not acceptable.

Use barriers to protect personnel from accidental contact with all dangerous voltages.

Do not install conductors carrying AC power in the same wiring harness as conductors carrying control or communication signals.

Arrange wiring, including fiber optic pigtails, so that any removable assembly can be removed without disturbing wiring that is not associated with the assembly being removed.

Communication and control cables may not be spliced underground, except where indicated on the plans.

Cables in the Statewide Traffic Operations Center or in communication hubs, which are not contained within a single cabinet, shall have at least 10 feet of slack.

C.4 System Operations
If the contractor's operations unexpectedly interrupt Intelligent Transportation Systems (ITS) service, notify the engineer immediately and restore service within 24 hours. Repair all damaged facilities to the condition existing before the interruption. If service is not restored within 24 hours, the department may restore service to any operating device and deduct restoration costs from payments due the contractor.

C.5 Surge Protection
Arrange the equipment and cabinet wiring to minimize the distance between each conductor's point of entry and its protector. Locate the protector as far as possible from electronic equipment. Ensure that all wiring between the surge protectors and the point of entry is free from sharp bends.

D Measurement
No separate measurement will be made for the work described in this article.

E Payment
No separate payment will be made for the work described in this article. All work described in this article shall be included under the ITS items in the contract.

18.3 Intelligent Transportation Systems – Conduit.

Supplement standard spec 671.2 with the following:

671.2.4 Locate Wire
Furnish and install a No. 14 AWG stranded copper wire for future locate purposes through each conduit run. Connect the locate wire by using a wire nut at each pull box, manhole, or other access point. Alternatively, use a single wire through the access points. All material furnished under this item shall meet the requirements of standard spec 655.
671-005 (20100630)

671.2.5 Duct Sealant
Furnish and install a climate appropriate duct sealant in all conduit openings within an environmentally protected enclosure in order to prevent vermin infestation. Environmentally protected enclosures include, but are not limited to, controller cabinets, dynamic message signs, and communications huts.

18.4 Install Pole Mounted Cabinet, Item 673.0225.S.

A Description
This special provision describes installing an aluminum enclosure on a pole for intelligent transportation systems equipment.

B Materials

The pole mounted cabinet will be department furnished or salvaged from the project. If the pole mounted cabinet is salvaged from the project it will include the attached plaques sequence identification and electrical service breaker disconnect box.

Use stainless steel bolts, nuts, and washers unless otherwise specified.

All conductors, terminals, and parts that could be hazardous to maintenance personnel shall be protected with suitable insulating material.

The cabinet will be equipped with service panels. Two panels shall be provided and mounted on the cabinet sidewalls. The left side panel shall be designated as "Input/Communications," and the right side panel shall be designated as the "Service Panel."

The service panel will be equipped with a four-outlet handi-box. Wire the handi-box to the series portion of the filtering surge protector.

Use metallic conduit, fittings, and adapters required from the underground conduit transition point to the cabinet as part of this item. A typical installation requires on 2-inch conduit. Use metallic conduit according to standard spec 652.

C Construction

Fasten the field cabinet securely onto a pole. Provide bolted stainless steel connections with lock washers, locking nuts, or other engineer-approved means to prevent the connection nuts from backing off. Isolate dissimilar materials from one another using stainless steel fittings. Make all power connections to the cabinet as specified in standard spec 656.

Drill and tap the cabinet, as necessary, to mount the terminal blocks and other attachments to the service panel, to provide an entrance on the back of the cabinet for cable from the pole mounted intelligent transportation systems equipment, and to mount the service panel to the cabinet as shown in the details. Remove all sharp edges or burrs, or both, caused by the cutting or drilling process. Seal all openings to prevent water from entering the cabinet. Mount the surge protector to the service panel.

Install metallic conduit on the exterior of the pole (for entrance to the cabinet from the ground) as shown in the plans, and according to the applicable requirements of standard spec 652.

D Measurement

The department will measure Install Pole Mounted Cabinet as each individual assembly, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
673.0225.S	Install Pole Mounted Cabinet	Each

Payment is full compensation for installing the pole mounted cabinet (including the attached plaques sequence identification and electrical service breaker disconnect box for cabinets salvaged from the project); for making all connections and conduit/wire entrances; and for furnishing all testing.

18.5 Install Ethernet Switch, Item 675.0400.S.

A Description

This special provision describes installing an Ethernet switch, and providing all necessary associated wiring.

B Materials

The department will furnish the Ethernet switch or it will be salvaged from the project. Provide all necessary cables between the Ethernet switch and terminal server or other device.

C Construction

Install the Ethernet switch in a new or existing field cabinet. Connect it to devices as shown on the plans, or as directed by the engineer.

D Measurement

The department will measure Install Ethernet Switch by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
675.0400.S	Install Ethernet Switch	Each

Payment is full compensation for installing an Ethernet switch; furnishing all necessary incidental hardware; and making all necessary connections, and testing.

18.6 Install Video Encoder, Item 677.0300.S.

A Description

This special provision describes installing a department furnished or salvaged video encoder in a pole mounted cabinet or field cabinet as shown on the plans and as hereinafter provided.

B Materials
Provide Category 5 or better Ethernet cable to connect the Ethernet video encoder to the Ethernet switch. The department will furnish the video encoder or it will be an existing and salvaged encoder.

C Construction
Make the necessary electrical and communication network connections to the video encoder. Mount the video encoder in the pole mounted cabinet or field cabinet. Program the video encoder according to the manufacturer's instructions.

D Measurement
The department will measure Install Video Encoder by each individual assembly, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
677.0300.S	Install Video Encoder	Each

Payment is full compensation for installing the video encoder in a pole mounted cabinet or field cabinet; for making all connections; and for furnishing all programming.

18.7 Salvage Pole Mounted Cabinet, Item SPV.0060.403.

A Description
This special provision describes salvaging an existing pole mounted cabinet including attached plaques sequence identification and electrical service breaker disconnect box.

B Materials
Provide all tools and equipment necessary to salvage the existing pole mounted cabinet.

C Construction
Prior to salvaging, the Field System Integrator must inspect the existing pole mounted cabinet for damage. If the existing pole mounted cabinet is found to be damaged, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully salvage the existing pole mounted cabinet at the location indicated on the plans. Salvage all mounting hardware associated with the existing pole mounted cabinet. Salvage all cables/wires connected to the existing pole mounted cabinet and attached electrical service breaker disconnect box in accordance to the plans.

Reinstallation of the pole mounted cabinet and attached plaques sequence identification and electrical service breaker disconnect box, as indicated on the plans or as directed by the engineer, including any new materials required (cables or mounting hardware, for example) will be paid under Install Pole-Mounted Cabinet. Reinstall the pole mounted cabinet within 48 hours of salvaging.

Storage of salvaged materials prior to reinstallation is the responsibility of the contractor and is incidental to this item.

Any salvaged materials to be reinstalled which are damaged during salvaging, transport, or the reinstallation process will be repaired or replaced at the expense of the contractor.

D Measurement
The department will measure Salvage Pole Mounted Cabinet as each individual pole mounted cabinet, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.403	Salvage Pole Mounted Cabinet	Each

Payment is full compensation for salvaging the pole mounted cabinet including attached plaques sequence identification and electrical service breaker disconnect box.

18.8 Salvage IP Radio, Item SPV.0060.404.

A Description
This special provision describes salvaging an existing IP radio and associated antenna.

B Materials
Provide all tools and equipment necessary to salvage the existing IP radio and associated antenna.

C Construction
Prior to salvaging, the Field System Integrator must determine if the IP radio and associated antenna are fully functional. If the IP radio and/or associated antenna are found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully salvage the existing IP radio and associated antenna at the location indicated on the plans. Salvage all mounting hardware associated with the IP radio and associated antenna. Salvage all cables/wires connected to the IP radio and associated antenna back to the next connected device.

Reinstallation of the IP radio and associated antenna, as indicated on the plans or as directed by the engineer, including any new materials required (cables or mounting hardware, for example) will be paid under Install IP Radio. Reinstall the IP radio within 48 hours of salvaging.

Deliver IP radios and associated antennas that will not be reinstalled to Randy Asman of the WisDOT NE Region at 944 Vanderperren Way, Green Bay, WI. Contact Randy Asman at (920) 492-7719 at least 24 hours prior to delivery. Alternate delivery locations may be determined at that time.

Storage of the salvaged materials prior to delivery to the NE Region is the responsibility of the contractor and is incidental to this item.

Any salvaged materials which are found to be damaged will be repaired or replaced at the expense of the contractor.

D Measurement
The department will measure Salvage IP Radio as each individual IP radio, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.404	Salvage IP Radio	Each

Payment is full compensation for salvaging the IP radio and associated antenna.

18.9 Ramp Closure Gates Solar Powered 24-FT, Item SPV.0060.405; Ramp Closure Gates Solar Powered 30-FT, Item SPV.0060.406.

A Description
This special provision describes providing freeway on-ramp closure gates on type 5 steel luminaire poles.

B Materials
B.1 General
Provide five user manuals and a listing of vendors and contact information for each manufactured component including flasher electrical components.

The engineer may allow alternate components equal to the manufactured components this special provision specifies. The engineer may require modification of the plan details to accommodate alternates. If the contractor provides an alternate arm and/or mounting adaptor, the engineer will reject that alternate if the contractor cannot demonstrate, to the engineer's satisfaction that the department can easily remove and replace the arms.

B.2 Components
Furnish type 5 steel poles designed to carry twin 15-foot luminaire arms and conforming to standard spec 657 and with dimensions for acceptable installation of the ramp gate hardware as shown on the detail.

Amend standard spec 657.2.1, Poles, paragraph (7) to read as follows:

(7) Construct poles of materials having sufficient rigidity that, with all material installed and in place as the plans show, the centerline of the shaft is vertical. Include dampers in all poles.

Amend standard spec 657.2.1, Poles, by adding the following paragraph:

(23) Furnish all poles with a manufacturer applied black powder coated finish. Poles powder coated after purchase from the manufacturer will not be accepted without approval from the engineer. Pole cap, nut covers and associated materials shall have a matching powder coated finish.

Furnish galvanized steel nuts and galvanized bolts conforming to ASTM A307 except where designated as high strength (HS) conform to ASTM A325. For the ramp closure gate locking mechanism, furnish a handle nut to fit on a 3/4-inch bolt (B&B Part Number 0605P0539 or approved equal).

Furnish grade A36 steel for the gate supports, gate pivot assembly, and associated hardware that is all galvanized after fabrication by either a mechanical or hot-dip process. Grind welded connections, rough edges, and burrs smooth before galvanizing to ensure a finished appearance. Ensure that the galvanized coating conforms to ASTM A153.

Furnish upper and lower gate supports, gate pivot assembly and top collar with a manufacturer applied black powder coated finish. Materials powder coated after purchase from the manufacturer will not be accepted without approval from the engineer.

Provide aluminum/fiberglass gate arms of the nominal length the bid item indicates and conforming to plan dimensions. Cover gate arms on two sides with alternating red and white shop-applied type SH reflective sheeting conforming to standard spec 637.2. Also provide a shear pin base that is the manufacturer's "permanent pivot" style. Obtain components from:

B&B Roadway
15191 Hwy 243
Russellville, AL 35654
Tel: (888) 560-2060
Gate arm: Model MU605

Furnish a worm gear winch with a single line vertical lift capacity of 2000 lbs. Ensure that the winch has hardened steel gears, a handgrip, permanently lubricated bearings, a reinforced arc-welded reel assembly, and mounting plate. Ensure that the winch can be mounted to the winch mount plate shown on the construction details and the handgrip can be operated without conflict with the pole or ramp gate assembly. Furnish a 2 inch outdoor rated, rot resistant polyester strap for the connection between the worm gear winch and the gate arm pivot assembly.

Furnish solar power system and batteries conforming to the following:

B.2.1 Cabinet

Furnish all cabinets with a manufacturer applied black anodized finish. Cabinets anodized after purchase from the manufacturer will not be accepted without approval from the engineer.

The cabinet shall be manufactured of 0.125-inch sheet aluminum. Nominal cabinet dimensions shall be 26.25 inches high by 15.5 inches wide by 14.75 inches deep. The cabinet shall be a two-compartment type; the bottom compartment shall have a neoprene gasket seal so as to prevent battery gases from seeping into the top compartment. The cabinet shall have wire screened insect proof louvers on each side of both compartments for ventilation. The louvers shall be designed to not allow any rain to enter the cabinet. On the bottom of the cabinet there shall be two screened insect proof drain holes.

The door shall be a single unit with a continuous piano hinge riveted to the door and the cabinet. The door shall incorporate a neoprene gasket which, when closed, forms a snug weather tight seal. The door lock shall be a standard police lock, reinforced with a steel plate.

The cabinet shall be equipped with the necessary rigid back wall for mounting to a traffic signal standard. The cabinet shall have a 1 inch diameter cable entry hole at each mounting location on the back.

B.2.2 Control Panel

The control panel containing the electronics shall be mounted in the top compartment of the cabinet using bolts with wing nuts for quick and easy removal. The solar panel beacon and battery shall be connected through a main wiring harness via a circular pin connector (CPC). All modular components shall be easily removed for replacement or maintenance.

The solar panels, load, and battery shall be fused for short circuit protection and ease of system maintenance.

Furnish the cabinet with a 10-position terminal block for the 12-VDC power distribution. Power wire terminal strips 10 position feed-through terminal blocks UL-recognized for No. 22 AWG wire through No. 16 AWG wire and UL-rated for 15 amps. The terminals shall be tin-plated brass with brass clips and clamps.

B.2.3 Solar Charge Controller

The solar charge controller shall control battery charging through pulse width, modulated, temperature compensating, constant charging algorithm. The solar charge controller will have both a low voltage disconnect (LVD) of 11.4 VDC and a high voltage disconnect (HVD) of 15.5 VDC. A liquid crystal display (LCD) of battery voltage, solar array current, and load current will be available with the solar charge

controller. In addition, colored LEDs will display battery state. A green LED will indicate full charge, amber LED will indicate half charge, and a flashing red LED will indicate low charge. A solid glowing red LED will indicate the load has been disconnected. A separate green LED will indicate the battery is being charged.

The solar charge controller will have a load disconnect pushbutton. When the load is disconnected the button will glow red.

The solar charge controller will be capable of operating in a temperature range of -40° C and +85° C.

Wire terminations to the solar charge controller shall be accomplished using Euro style terminations.

B.2.4 Solar Panel

The solar panel shall be a 50-watt high efficiency, single crystal silicon solar cells that are laminated to glass with layers of ethylene vinyl acetate (EVA). The panel will be self-cleaning, impact resistant, highly transmissive, tempered glass superstate. The panel module frame will be made of extruded, polymer-coated aluminum alloy or similar approved construction. The panel module junction box will be a UV-resistant, weatherproof wire termination system that handles #14 AWG to #8 AWG wiring. The minimum wattage for the system shall be determined by the supplier, with design calculations submitted with the bid.

B.2.5 Solar Panel Mount

The solar panel mounting system shall consist entirely of non-corrosive materials, including aluminum brackets and zinc-plated hardware. The mounting system shall have a fixed angle of 60 degrees, shall mount to a tapered pole with a nominal diameter of 4-inches, and shall be designed for a minimum of 30 pounds per square foot.

B.2.6 Battery

The battery shall be a 99-amp-hour type 31 AGM maintenance-free, deep cycle, 12 volt DC battery. It shall contain valve regulation with a self-discharge rate of 1% per month or less (at 20° C). The battery will utilize T881 terminals. The positive terminal will be covered with a rubber boot to protect the battery from accidental shorting. Place dielectric grease on battery terminals.

B.2.7 Gate Flasher Assemblies

Furnish gate flasher assemblies conforming to the following:

- A 2-conductor battery connector, rated 12 volts at 5 amps minimum.
- A 2-amp weather resistant in-line fuse and fuse holder.
- Wiring harness made from 6-conductor 14 AWG stranded insulated control cable.
- 12-volt flasher controller, capable of providing LED flashers with 5% to 100% duty cycle at a one-second pulse repetition rate.
- A 4-conductor male/female electrical connector pair, 10-amp capacity for each connection, weather resistant, and mounted to allow rapid gate arm replacement.

- A 5-amp mercury switch with less than 3 ohms "on" resistance and a 20- to 30-degree activation angle. Mount the switch on the gate arm to activate the flashers when the gate arm is lowered more than 45 degrees from vertical.
- Furnish red LED flashers meeting the requirements of the MUTCD and/or AREMA standards for hue and brightness.

Power consumption	0.45 amp @ 10.5 V
Life expectancy	100,000 hrs
Directionality	0-degree cone orthogonal to face of flasher
Compliance temperature	-40° C to +70° C

Furnish electrical wires with jackets conforming to the following color scheme:

From Solar Panel to Controller Cabinet
- •Positive = Blue
- •Negative = White

From Controller Cabinet to Gate Arm Flashers
- •Common = White
- •Flasher Circuit #1 = Red
- •Flasher Circuit #2 = Blue

Furnish a 4-digit combination padlock (Master Lock Model 175DLH or approved equal) for the purpose of preventing unauthorized use of the ramp closure gate system.

C Construction

C.1 Luminaire Poles

Construct in accordance to the plans and standard spec 657.3.

C.2 Ramp Closure Gates

Under the Ramp Closure Gates bid items, provide ramp closure gate at the locations the plans show. Apply corrosion protection material from the department's approved products list to the interface between the aluminum base and steel pole. The engineer may direct adjustment of the gate arm assembly to ensure the correct vertical and angular orientation of the completed closure gate.

Install solar power system and battery as the plans show. The engineer may direct adjustment of the solar power unit to ensure the correct orientation to the sun.

Connect the battery to the wiring harness through the female side of a 2-terminal polarized electrical connector. Connect male side of this connector to the flasher controller and the female side of a weatherproof polarized 4-conductor electrical connector.

Attach the male side of the 4 conductor electrical connector, mercury switch, wiring harness and the three LED flasher units to the portion of the flasher assembly mounted on the breakaway portion of the gate arm. Adjust mercury switch so that as the gate arm is lowered to a maximum of 45 degrees from the vertical, the gate flasher assembly is

energized, and the LEDs begin to flash. Ensure that when the gate arm is raised to a minimum of 15 degrees from vertical, the mercury switches the gate flasher assembly off.

Install structure identification plaques per WisDOT Standard Detail Drawing 12A4.

C.3 Cabinet
Securely fasten the cabinet onto a pole (pole paid separately) using stainless steel U-bolts. Provide bolted stainless steel connections with lockwashers, locking nuts, or other engineer-approved means to prevent the connection nuts from backing off. Isolate dissimilar materials from one another by stainless steel fittings.

Drill a 1" diameter hole (insert grommet) in the pole for cable entry to the cabinet. Provide an entrance on the back of the cabinet for cable entry from the pole as shown in the details. Remove sharp edges, or burrs, caused by the cutting or drilling process. Seal openings to prevent water from entering the cabinet.

C.4 Shared Pull Boxes and Conduit
Flasher power distribution cables will share certain pull boxes and conduit runs with the lighting system. The following conditions for shared infrastructure shall be met:

- Wiring must be insulated to the highest voltage.
- Neutral wires must be distinguished differently.
- Pull boxes must be clearly labeled indicating the different voltages present.

D Measurement
The department will measure Ramp Closure Gates Solar Powered 24-FT and Ramp Closure Gates Solar Powered 30-FT as each individual ramp closure gate, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.405	Ramp Closure Gates Solar Powered 24-FT	Each
SPV.0060.406	Ramp Closure Gates Solar Powered 30-FT	Each

Payment for Ramp Closure Gates Solar Powered 24-FT and Ramp Closure Gates Solar Powered 30-FT is full compensation for providing ramp closure gates including support pole with a black powder coated finish, gate arm assemblies, gate arms, cabinets, control panel, solar power system and batteries, and gate flashers.

18.10 Pedestal Bases Black, Item SPV.0060.407.

A Description
This special provision describes furnishing and installing a black pedestal base for ramp closure gates.

B Materials
Modify standard spec 657.2.2.5, paragraph (1) to read as follows:

(1) Furnish cast aluminum alloy pedestal and transformer bases from the department's approved products list and meeting the design criteria specified in standard spec 657.2.2.1.2. Ensure that castings are true to pattern in form and dimensions and free from defects affecting strength or service life. Furnish all bases with a manufacturer applied black anodized finish. Bases anodized after purchase from the manufacturer will not be accepted without approval from the engineer.

C Construction
Construct in accordance to the plans and standard spec 657.3.

D Measurement
The department will measure Pedestal Bases Black as each individual black pedestal base, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.407	Pedestal Bases Black	Each

Payment is full compensation for furnishing and installing the pedestal base, mechanical grounding connector, and related hardware; for leveling shims if required; and for providing a black anodized finish.

18.11 Traffic Signal Standards Aluminum 15-FT Black, Item SPV.0060.409.

A Description
This special provision describes furnishing and installing a black 15-ft aluminum traffic signal standard for ramp closure gates.

B Materials
Modify standard spec 657.2.2.4, paragraph (1) to read as follows:

(1) Furnish standards consisting of extruded seamless aluminum alloy 6061-T6 manufactured conforming to ASTM B241, or porthole extruded aluminum alloy 6061-T6 manufactured conforming to ASTM B429. Furnish all standards with a manufacturer applied black anodized finish. Standards anodized after purchase from the manufacturer will not be accepted without approval from the engineer. Standard cap and associated materials shall have a matching anodized finish. Also conform to the following:

• Threaded on one end, tapered, and conforming to national pipe threading dimensions and normal practice.
• Outside dimension of 4 1/2 inch.
• Schedule 80 aluminum pipe.

C Construction
Construct in accordance to the plans and standard spec 657.3.

D Measurement
The department will measure Traffic Signal Standards Aluminum 15-FT Black as each individual black traffic signal standard, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.409	Traffic Signal Standards Aluminum 15-FT Black	Each

Payment is full compensation for furnishing and installing the traffic signal standard, related hardware and for providing a black anodized finish.

18.12 Tracer Test Station, Item SPV.0060.410.

A Description
This special provision describes furnishing and installing tracer test station marker posts.

B Materials
Furnish tracer test station marker posts with high-impact plastic, stainless steel hardware and a minimum of five standard terminals. Ensure post material is fade resistant and UV stable.

C Construction
Install tracer test stations as shown on the plans or as directed by the engineer. Make connections to tracer wires as appropriate.

D Measurement
The department will measure Tracer Test Station as each individual tracer test station, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.410	Tracer Test Station	Each

Payment for Tracer Test Station is full compensation for furnishing and installing all materials; making all necessary connections; including restoration of ground to original condition including topsoil, sand, concrete, or other required materials; and for disposing of surplus materials.

18.13 Install Termination Panel, Item SPV.0060.411.

A Description
This special provision describes installing a department furnished fiber optic termination panel.

B Materials
A fiber optic termination panel will be furnished by the department. Provide mounting hardware as necessary.

C Construction
Install a 6-count fiber optic termination panel in pole or base mounted field cabinets. Install termination panels as shown on the plans, or as directed by the engineer.

D Measurement
The department will measure Install Termination Panel by each individual termination panel, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.411	Install Termination Panel	Each

Payment is full compensation for installation of the fiber optic termination panel; furnishing and installing all necessary hardware.

18.14 Salvage Camera Assembly, Item SPV.0060.412.

A Description
This special provision describes salvaging an existing camera assembly.

B Materials
Provide all tools and equipment necessary to salvage the existing camera assembly.

C Construction
Prior to salvaging, the Field System Integrator must determine if the camera assembly and associated components are fully functional. If any part of the camera assembly is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully salvage the existing camera assembly at the location indicated on the plans. Salvage all mounting hardware associated with the camera assembly. Salvage all cables/wires connected to the camera back to the control cabinet.

Reinstallation of the camera assembly, as indicated on the plans or as directed by the engineer, including any new materials required (cables or mounting hardware for example) will be paid under the Install Camera Assembly bid item. Reinstall and make operational the camera assembly within 48 hours of salvaging.

Storage of salvaged materials prior to reinstallation is the responsibility of the contractor and is incidental to this item.

Any salvaged materials which are damaged during salvaging, transport, or the reinstallation process will be repaired or replaced at the expense of the contractor.

D Measurement
The department will measure Salvage Camera Assembly as each individual camera assembly, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.412	Salvage Camera Assembly	Each

Payment is full compensation for salvaging the camera assembly.

18.15 Salvage Ethernet Switch, Item SPV.0060.413.

A Description
This special provision describes salvaging an existing Ethernet switch.

B Materials
Provide all tools and equipment necessary to salvage the existing Ethernet switch.

C Construction
Prior to salvaging, the Field System Integrator must determine if the Ethernet switch is fully functional. If any part of the Ethernet switch is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully salvage the existing Ethernet switch at the location indicated on the plans. Salvage all mounting hardware associated with the Ethernet switch. Salvage all cables/wires connected to the Ethernet switch back to the next connected device.

Reinstallation of the Ethernet switch, as indicated on the plans or as directed by the engineer, including any new materials required (cables or mounting hardware for example) will be paid under the Install Ethernet Switch bid item. Reinstall and make operational Ethernet switches within 48 hours of salvaging.

Deliver Ethernet switches that will not be reinstalled to Randy Asman at the WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304. Contact Randy Asman at (920) 492-7719 at least 24 hours prior to delivery. Alternate delivery locations may be determined at that time.

Storage of the salvaged materials prior to reinstallation or delivery to the WisDOT NE Region Office is the responsibility of the contractor and is incidental to this item.

Any materials to be reinstalled which are damaged during salvaging, transport, or the reinstallation process will be repaired or replaced at the expense of the contractor.

D Measurement
The department will measure Salvage Ethernet Switch as each individual Ethernet switch, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.413	Salvage Ethernet Switch	Each

Payment is full compensation for salvaging the Ethernet switch.

18.16 Salvage Video Encoder, Item SPV.0060.414.

A Description
This special provision describes salvaging an existing video encoder.

B Materials
Provide all tools and equipment necessary to salvage the existing video encoder.

C Construction
Prior to salvaging, the Field System Integrator must determine if the video encoder is fully functional. If the video encoder is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully salvage the existing video encoder at the location indicated on the plans. Salvage all mounting hardware associated with the video encoder. Salvage all cables/wires connected to the video encoder back to the next connected device.

Reinstallation of the video encoder, as indicated on the plans or as directed by the engineer, including any new materials required (cables or mounting hardware for example) will be paid under the Install Video Encoder bid item. Reinstall and make operational the video encoder within 48 hours of salvaging.

Storage of the salvaged materials prior to reinstallation is the responsibility of the contractor and is incidental to this item.

Any materials to be reinstalled which are damaged during salvaging, transport, or the reinstallation process will be repaired or replaced at the expense of the contractor.

D Measurement
The department will measure Salvage Video Encoder as each individual video encoder, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.414	Salvage Video Encoder	Each

Payment is full compensation for salvaging the video encoder.

18.17 Salvage Mounted Controller Microwave Detector Assembly, Item SPV.0060.415.

A Description
This special provision describes salvaging an existing mounted controller microwave detector assembly.

B Materials
Provide all tools and equipment necessary to salvage the existing mounted controller microwave detector assembly.

C Construction
Prior to salvaging, the Field System Integrator must determine if the microwave detector is fully functional. If any part of the microwave detector is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully salvage the existing microwave detector at the location indicated on the plans. Salvage all mounting hardware associated with the microwave detector. Salvage all cables/wires connected to the microwave detector back to the next connected device.

Reinstallation of the microwave detector, as indicated on the plans or as directed by the engineer, including any new materials required, (cables or mounting hardware for example) will be paid for under the Install Mounted Controller Microwave Detector Assembly bid item. Reinstall and make operational the microwave detector within 48 hours of salvaging.

Storage of salvaged materials prior to reinstallation is the responsibility of the contractor and is incidental to this item.

Any salvaged materials damaged during salvaging, transport, or reinstallation shall be repaired or replaced at the expense of the contractor.

D Measurement
The department will measure Salvage Mounted Controller Microwave Detector Assembly as each individual microwave detector assembly, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.415	Salvage Mounted Controller Microwave Detector Assembly	Each

Payment is full compensation for salvaging the mounted controller microwave detector assembly.

18.18 Remove Wood Pole, Item SPV.0060.416.

A Description
This special provision describes removing an existing wood pole.

B Materials
Provide all tools and equipment necessary to remove the existing wood pole.

C Construction
Coordinate with Randy Asman of the WisDOT NE Region at (920) 492-7719 and WPS (as necessary) to disconnect existing temporary power service prior to removal of the wood pole.

Carefully remove the existing wood pole at the location indicated on the plans.

Dispose of removed materials off WisDOT Right-of-Way.

D Measurement
The department will measure Remove Wood Pole as each individual wood pole, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.416	Remove Wood Pole	Each

Payment is full compensation for removal and disposal of the wood pole.

18.19 Fusible Disconnect Box, Item SPV.0060.417.

A Description
This special provision describes furnishing and installing a fusible disconnect box.

B Materials
The fusible disconnect box shall be code gauge steel, phosphate coated, primed and finished with high grade lacquer, ANSI 60 gray color.

C Construction
Install the fusible disconnect box to the CCTV-05-0048 camera pole in accordance to the plan details and the National Electric Code.

D Measurement
The department will measure each Fusible Disconnect Box as each individual disconnect box, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.417	Fusible Disconnect Box	Each

Payment is full compensation for furnishing and installing a Fusible Disconnect Box.

18.20 Step Down 3KVA Control Transformer 480V PRI – 120/240V SEC, Item SPV.0060.418.

A Description
This special provision describes furnishing and installing a dry type transformer, wiring, conduit and mounting hardware.

B Material
The transformer enclosure shall be code gauge steel, phosphate coated, primed and finished with high grade lacquer, ANSI 60 gray color.

The transformer enclosure rating shall be NEMA 3R. The insulation in the transformer shall consist of a sealed and resin filled solid dielectric. All insulation material shall be rated for 180^{o} C duty.

The average temperature rise of the transformer windings shall not exceed 115 degrees C when the transformer is operating at full nameplate rating.

The transformer shall be supplied in a knockdown case design, for ease in fitting through limited openings.

The transformer shall be supplied with 480 volt primary windings and 120/240 volt secondary winding, 60Hz, Single Phase.

C Construction
Install the transformer to the CCTV-05-0048 camera pole in accordance to the plan details and the National Electric Code.

D Measurement
The department will measure each Step Down 3KVA Control Transformer 480V PRI – 120/240V SEC as each individual transformer, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.0418	Step Down 3KVA Control Transformer 480V PRI – 120/240V SEC	Each

Payment is full compensation for furnishing and installing a Step Down 3KVA General Purpose Transformer 480V PRI – 120/240V SEC, Single Phase.

18.21 Installing Pole Mounted Cabinet, Item SPV.0060.419.

A Description
This special provision describes installing a department furnished aluminum cabinet on a Type 3 pole for traffic counting equipment, as shown on the plans and as hereinafter provided.

B Materials
The unit will consist of a pole-mounted cabinet. All mounting hardware such as the U-bolts, nuts, and washers that are subject to corrosion shall be stainless steel unless otherwise specified. The Cabinet and U-bolt mounts can be picked up at the Green Bay, WI DOT – Contact Kim Heise at (920) 362-6360. Notify Jane Oldenburg, Wisconsin DOT, Travel Survey Shop (608) 245-2679 three weeks prior to pickup, so items can be placed at the pickup location. Contact Kim Heise or Jane Oldenburg to stake the location for installation.

All conductors, terminals, and parts that could be hazardous to maintenance personnel shall be protected with suitable insulating material.

The cabinet and detector will protected by a Wavetronix Click 200 Surge arrestor module.

C Construction
The contractor shall securely fasten the field cabinet onto a pole (pole paid separately) with bolted stainless steel connections with lock washers, lock nuts, or other engineer-approved means to prevent the connection nuts from backing off. When applicable, install the bottom U-bolt so that it is above the battery case. Isolate dissimilar materials from one another by stainless steel fittings.

Make all power connections to the cabinet as specified in detail plans.

The cabinet shall be drilled and tapped, as necessary, to mount the "Din Rail and other attachments, to provide an entrance on the bottom back of the cabinet for the cable from the pole mounted Wavetronix Detector equipment. Sharp edges, or burrs, caused by the cutting or drilling process shall be removed. All openings shall be sealed to prevent water from entering the cabinet.

The surge protector shall be mounted to the Din Rail.

D Measurement
The department will measure Installing Pole Mounted Cabinet as each individual assembly, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.419	Installing Pole Mounted Cabinet	Each

Payment for Installing Pole Mounted Cabinet is full compensation for installing the pole mounted cabinet, for making all connections (to Traffic Detector and electrical service pedestal) and conduit/wire entrances, and for furnishing all testing.

18.22 Installing Two Solar Panels On One Bracket, Item SPV.0060.420.

A Description
This section describes installing department furnished solar power units.

B Materials
The units will consist of two solar panels, solar panel rack, two U-bolts, 10 AWG Gauge stranded-wire wiring. Provide any other mounting or wiring hardware not furnished by the State. The two solar panels, solar panel rack, two U-bolts, and 10 AWG Gauge

stranded-wire wiring can be picked up at the Green Bay, WI DOT – Contact Kim Heise at (920) 362-6360. Notify Jane Oldenburg, Wisconsin DOT, Travel Survey Shop, (608) 245-2679 three weeks prior to pickup, so items can be placed at the pickup location.

C Construction

Install and test the solar charge regulator and solar batteries (in parallel). Make the necessary electrical connections between the components of the solar power unit. Mount the solar panels and enclosure; all necessary hardware for mounting is incidental. Connect solar panels to the solar power unit according to the manufacturer's instructions.

The solar power unit shall be activated and left on for 30 consecutive days. During this period, all materials and components of the solar power unit shall operate as specified and without any failure. In event of a failure, the engineer will suspend the 30-day test until the failures are corrected, at which time the test will resume.

D Measurement

The department will measure Installing Two Solar Power Panels On One Bracket as each individual assembly, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.420	Installing Two Solar Power Panels On One Bracket	Each

Payment for Installing Two Solar Power Panels On One Bracket is full compensation for installing the solar power unit on a pole, for making all connections, and for furnishing all testing.

18.23 Installing Wavetronix Click 200 Module, Item SPV.0060.421.

A Description

This special provision describes installing department furnished Wavetronix Click 200 Module as shown on the plans and as hereinafter provided.

B Materials

The units will consist of Wavetronix Click 200 Module. DIN racks, terminal block, wiring, and stainless steel bolts. Provide any other mounting or wiring hardware not furnished by the State. The Wavetronix Click 200 Module The units can be picked up at the Green Bay, WI DOT – Contact Kim Heise at (920) 362-6360. Notify Jane Oldenburg, Wisconsin DOT, Travel Survey Shop, (608) 245-2679 three weeks prior to pickup, so items can be placed at the pickup location.

C Construction
Install the Wavetronix Click 200 Module in the cabinet on to the DIN rail as shown on the plans.

Connect the Wavetronix Click 200 Module to the Wavetronix Power Module and to the Wavetronix unit as shown on the plan. The power is wired to the bottom of the Click 200 Module.

After the Wavetronix Click 200 Module is installed and the Wavetronix cable is connected to the Wavetronix unit, test to see that all of the traffic lanes are being collected correctly.

D Measurement
The department will measure Installing Wavetronix Click 200 Module, as each Wavetronix Click 200 Module is acceptably completed.

E Payment.
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.421	Installing Wavetronix Click 200 Module	Each

Payment is full compensation for installing connections; for testing; and for transportation, and incidentals necessary to complete the work.

18.24 Installing Wavetronix Detector Module, Item SPV.0060.422.

A Description
This special provision describes installing, testing, and completing the calibration of the state-furnished Wavetronix Detector (HD 125) Module, mounting bracket and stainless steel hose clamps as shown on the Plans and as hereinafter provided.

B Materials
The department will furnish the Wavetronix Detector (HD 125) Module, Wavetronix Cable, Mounting Bracket, and stainless steel hose clamps from the project ID. The department will provide a Wavetronix Service Report form for the completion of the calibration requirements. The Wavetronix Detector (HD125) Module, mounting bracket and stainless steel hose clamps can be picked up at the Green Bay, WI DOT- Contact Kim Heise at (920) 362-6360. Notify Jane Oldenburg, Wisconsin DOT, Travel Survey Shop (608) 245-2679 three weeks prior to pickup, so items can be placed at the pickup location.

C Construction

Attach the Wavetronix Detector (HD125) Module to a 30 ft. Type 3 pole utilizing the Wavetronix Mounting Bracket and stainless steel hose clamps. Do not use permanent straps. The bracket may need to be moved if it the Detector goes out of alignment. Use manual installation height guidelines located at website: http://www.wavetronix.com/support

Connect the Wavetronix 40 ft. Detector cable to the Wavetronix Detector (HD125) Module mounted up on the pole, put drip loop outside the pole and then snake the cable down through the pole (leave slack in cable so the unit can be moved up or down and do not cut the cable) and make the appropriate cable connections to the Click 200 Surge Arrestor inside the pole-mounted cabinet.

The contractor shall demonstrate the functionality and operational accuracy of the Wavetronix Detector (HD125) Module. The contractor using a laptop computer running Windows and the Wavetronix Setup and Calibration software program SSM HD and manual located website: http://www.Wavetronix.com/support to connect to the Wavetronix unit and verify the detector is properly aimed. Under the Sensor Setting heading, enter the last four digits of the Wavetronix number. Description for Unit No. 1 is "USH 41, btwn WIS 29 and Velp, Northbound" Location is 050952151111. Unit No. 2 is "USH 41, btwn WIS 29 and Velp Southbound" Location is 050952301111. Follow the manual for the remaining setup. Use the software, run the "lane auto-configuration" to detect all traffic lanes. All lanes must be open to free-flowing traffic to complete this process.

The Wavetronix Detector (HD125) Module shall be setup to collect 5-bin length data. Bin length (ft) shall be 0-9, 9-24, 24-40, 40-75, 75 +. Collect speed into 15 bins starting with 0-20, 25-30, 30-35 and 5 mph increments until 85 +.

In the "lane verification" mode of the software, set display so speed is indicated on each vehicle crossing the screen. The Wavetronix Detector unit needs to be adjusted so that speed is indicated for 98%(normal accuracy) of vehicles with a minimum of 95% accuracy, per lane. Vehicles not being detected for speed, display "no speed (blank)". Record the data on the Wavetronix Service Report Form.

In the class 1 (C1) display mode, vehicles detected must be 90% accurate, per lane. Record the data on the Wavetronix Service Report Form.

A 15-minute volume count shall be taken. The accuracy between the display and the manual count must be 98%-99% typical with a minimum of 95% accuracy per lane. Recommend counting each lane in one direction at once. Record the data on the Wavetronix Service Report Form. One Wavetronix Service Report Form is needed for each unit.

A field test shall be successfully conducted by (insert installer's name) of (insert installation contractor name). A signed and dated Wavetronix Service Report Form, indicating the field test results of accuracy, speed, and class tests, shall be provided to Jane Oldenburg, Wisconsin DOT, Travel Survey Shop, 3633 Pierstorff St., Madison, WI 53704, (608) 245-2679. You may scan and email document to: jane.oldenburg@dot.wi.gov or fax to (608) 246-5401.

The Travel Survey Shop will verify the data after all of the construction work, wire and cable connections are made, the Wavetronix Service Report calibration form is complete, and the detector is declared operational by the contractor. The test is designed to demonstrate that Wavetronix Detector (HD 125) Module operates correctly, and that all functions are in conformance with these Specifications.

Following successful completion of the above tests, the Wavetronix Detector (HD 125) Module shall be activated and left on for 30 consecutive days. During this period, all materials and components of the Wavetronix Detector (HD 125) Module shall operate as specified and without any failure.

In the event any component of the Wavetronix (HD 125) Detector Module system malfunctions or operates below the level specified, the test period will be terminated, and the contractor shall be required to determine the problem, repair the problem and report the findings to the Travel Survey Shop within 7 to 10 calendar days of notification. Upon correction of the problems, to the satisfaction of the Travel Survey Shop, a new 30-day test period will be started.

D Measurement

The department will pay for installing the Wavetronix Detector (HD 125) Module, Wavetronix Cable, Wavetronix Mounting bracket, and a completed Wavetronix Service Report after they are acceptably installed and operational.

WAVETRONIX SERVICE REPORT Date:

REPORT TYPE	STATION NAME	STATION ID.
☐ CALIBRATION ☐ SERVICE		
WORK ORDER:		

SPEED CALIBRATION (NUMBER OF VEHICLES WITH "NO SPEED") ACCURACY REQUIREMENT: 98% NORMAL, 95% MIN.			CLASS CALIBRATION ACCURACY REQUIREMENT: 90%			
LANE #	SPEED CALIBRATION # NO SPEED	SPEED CALIBRATION TOTAL SAMPLE #	LANE #	CLASS CALIBRATION #WRONG CLASS	CLASS CALIBRATION TOTAL SAMPLE #	LENGTH ADJUSTMENT FT.
Lane 1			Lane 1			
Lane 2			Lane 2			
Lane 3			Lane 3			
Lane 4			Lane 4			
Lane 5			Lane 5			
Lane 6			Lane 6			
Lane 7			Lane 7			
Lane 8			Lane 8			

VOLUME CALIBRATION MANUAL VS WAVETRONIX 15 MINUTE COUNT ACCURACY REQUIREMENT: 98% TYPICAL (95% MINIMUM) *	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
Manual								
Wavetronix (WTX)								
Accuracy Percentage (%) (Manual ÷ WTX x 100 = %)								

*May use "per direction" totals for obstructed views. Accuracy Requirement: 98% (95%

EQUIPMENT NO: WAVETRONIX UNIT (LAST 4 DIGITS)# MODEM NO:(LAST 6 DIGITS) #

BAUD RATE:

	LANE 1	LANE 2	LANE 3	LANE 4	LANE 5	LANE 6	LANE 7	LANE 8
LANE WIDTH								

COMMENTS/WORK COMPLETED:

COMPLETED BY: (COMPANY AND NAME) DATE:

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.422	Installing Wavetronix Detector Module	Each

Payment is full compensation for Installing Wavetronix Detector (HD 125) Module, Wavetronix Cable and Wavetronix Mounting Bracket; for making all cable connections; for furnishing all testing and completion of the Wavetronix Service Report form.

18.25 Concrete Maintenance Platform, Item SPV.0060.423.

A Description
This special provision describes installing a concrete maintenance platform at an automatic traffic recorder station.

B Materials
The contractor may furnish a pre-cast concrete slab, or furnish materials conforming to the following:

For concrete, provide materials in accordance to standard spec 602.2.

For forms, provide materials in accordance to standard spec 602.3.2.2.

For testing comply with standard spec 716.2.2.

C Construction
Install concrete maintenance platform as specified in the plan details.

Before installation of the pre-cast concrete slab, or concrete maintenance platform, the earth shall be leveled and compacted around the type 2 concrete or helix pole base.

Earth shall be removed and leveled on the side of the pole opposite the roadway. (When you are standing on the platform looking into the cabinet you are also looking straight ahead at the roadway.)

If pouring a concrete maintenance platform, 2 x 4 lumber forms shall be constructed and laid in the area that the earth was removed from. The forms shall be leveled and squared before the concrete is poured.

Place and finish the platform or concrete in accordance to standard spec 602.3.2.3 (1).

D Measurement
The department will measure Concrete Maintenance Platform as each individual concrete maintenance platform, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.423	Concrete Maintenance Platform	Each

Payment is full compensation for furnishing and installing all materials, including concrete.

18.26 Grading, Shaping and Finishing for ATR Site, Item SPV.0060.424.

A Description
This special provision describes the excavating, filling, grading, shaping, compacting, and finishing necessary to accommodate ATR Site, as shown on the plans, in accordance to the pertinent requirements of the standard specifications, and as hereinafter provided.

B (Vacant)

C Construction
Construct embankment slopes as shown on the plans.

Properly dispose of all surplus and unsuitable material in accordance to standard spec 205.3.12.

D Measurement
The department will measure Grading, Shaping and Finishing for ATR Site as each individual terminal, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.424	Grading, Shaping and Finishing for ATR Site	Each

Payment is full compensation for furnishing all excavating, grading, shaping and compacting; furnishing and placing fill, salvaged topsoil, fertilizer, seed, and mulch.

18.27 Conduit HDPE 3-Duct 2-Inch, Item SPV.0090.400; Conduit HDPE Directional Bore 3-Duct 2-Inch, Item SPV.0090.401.

A Description
This special provision describes furnishing and installing HDPE conduit in accordance to standard spec 671.

B Materials
Supply the material according to standard spec 671.2. Provide conduit according to the following color scheme:

- Trunk communications system conduit to hold future trunk fiber optic cable and other cables – 1 Blue conduit / 1 Orange conduit / 1 Brown conduit
- Other conduit – Colors as indicated on the plans

C Construction
Install the conduit according to standard spec 671.3.

D Measurement
The department will measure Conduit HDPE 3-Duct 2-Inch and Conduit HDPE Directional Bore 3-Duct 2-Inch according to standard spec 671.4.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.400	Conduit HDPE 3-Duct 2-Inch	LF
SPV.0090.401	Conduit HDPE Directional Bore 3-Duct 2-Inch	LF

Payment is full compensation for installation in accordance to standard spec 671.5.

18.28 Conduit HDPE 4-Duct 2-Inch, Item SPV.0090.402.

A Description
This special provision describes furnishing and installing HDPE conduit in accordance to standard spec 671.

B Materials
Supply the material according to standard spec 671.2. Provide conduit according to the following color scheme:

Shared trench with trunk and local communications system conduit:

- Local communications system conduit to hold local communications cables and electrical wires (less than 120 volts) – 1 Blue conduit
- Trunk communications system conduit to hold future 72-count trunk fiber optic cable and other cables – 1 Blue conduit / 1 Orange conduit / 1 Brown conduit

- Other shared trench combinations:
- Colors as indicated on the plans

C Construction
Install the conduit according to standard spec 671.3.

D Measurement
The department will measure Conduit HDPE 4-Duct 2-Inch according to standard spec 671.4.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.402	Conduit HDPE 4-Duct 2-Inch	LF

Payment is full compensation for installation in accordance to standard spec 671.4.

19. Miscellaneous/Incidental Construction.

19.1 Furnishing and Planting Plant Materials.

The work under this item shall be in accordance to the plans, standard spec 632, as shown on the plans, and as hereinafter provided.

Modify standard spec 632.2.1 to include the following:

All plants shall be grown within the states of Wisconsin, Minnesota, Michigan, or parts of northern Illinois, Indiana or Ohio located within Zone 5 of the "Plant Hardiness Zone Map" produced by the United States Department of Agriculture, Miscellaneous Publication No. 1475, issued January 1990, unless otherwise approved by the engineer.

Modify standard spec 632.2.2.8 as follows:

A list of sources for plants shall be furnished in accordance to standard spec 632.2.2.8 before planting begins for fall-planted plants and before March 15 for spring-planted plants. All sources will be subject to verification by the engineer.

Modify standard spec 632.2.3.4 to include the following:

Planting mixture blend shall be reviewed and approved by the engineer or construction representative before use on project. The engineer reserves the right to reject planting mixture that does not conform to the specifications and/or does not come with the appropriate material certificates. The engineer may require the contractor to take samples (for USDA soil texture classification, pH, % organic matter, nutrient content, cation exchange capacity, soluble salts, and the presence of any materials deleterious to plant growth) and provide testing through a qualified testing laboratory approved by the State of Wisconsin to confirm that topsoil meets the requirements outlined in standard spec 625.

Modify standard spec 632.2.4.2 as follows:

For fertilizer used in plant holes, provide a three-year release, water-soluble fertilizer contained in a micropore slow release polyethylene packet. Each packet shall contain two ounces of fertilizer. A single 2-ounce packet is considered one unit. The fertilizer shall conform to the following minimum requirements:

Nitrogen, not less than ----- 16%
Phosphoric Acid, not less than ----- 8%
Potash, not less than -----8%

For trees: The contractor shall use a minimum of two units and shall provide two units per caliper inch of tree trunk diameter. For one-half caliper measurements, the contractor shall round up. For example, a 2 ½" caliper tree should receive six units of fertilizer.

For shrubs: The contractor shall use a minimum of two units and shall provide one unit per 12 inches of plant height or spread.

Modify standard spec 632.2.7 as follows:

Do not use wrapping on plant material.

Modify standard spec 632.2.9 as follows:

Provide rodent protection for single-stem trees of rigid plastic mesh made of recycled HDPE with an open mesh matrix ¾" by ¾" with each strand approximately 1/8" x 1/8" x 1/8". Ensure the product is UV treated with a life expectancy of up to five years. Ensure product is at least 48 inches high. Supply source of rodent protection to the engineer. All sources will be subject to verification and approval by the engineer. Install rodent protection for single-stem trees according to manufacturer's written instructions, burying the bottom of the rodent protection 2-3 inches into the adjacent soil grades.

Provide rodent protection for multi-stemmed trees of chicken wire or other similarly rigid, matrix-material with an open mesh matrix ¾" by ¾" or less, 48 inches high. Supply source of chicken wire to the engineer. All sources will be subject to verification and approval by the engineer. Install rodent protection for multi-stemmed trees such that the entire base of the tree is protected; circumference of rodent protection may vary based on specific characteristics of each tree. Ensure that the bottom 2-3 inches of the rodent protection is buried into the adjacent soil grades.

Contractor shall use granular or similar rodent bait for shrub beds as needed and only as approved by engineer.

Modify standard spec 632.2.10 to include the following:

Contractor shall use 18" long soft polymer webbing strap with grommets at end of the two ends to secure wire or twine to tree. Contractor shall supply source of webbing straps to the engineer. All sources will be subject to verification and approval by the engineer.

The contractor shall provide tree stabilization for all trees:

- Planted on slopes greater than 4:1;
- Planted in areas prone to high winds;
- Planted in areas prone to flooding or with seasonally saturated soils;
- At the discretion of the landscape contractor to ensure viable, healthy plantings;
- At the discretion of the engineer.

Modify standard spec 632.3.1 as follows:

The normal spring planting season for all plants shall extend to June 15. The normal fall planting season begins September 15 and shall be completed by November 15 or up until the ground is frozen. Planting of evergreen trees and shrubs, and perennials in the fall shall be completed by October 15. If the overall construction schedule dictates that planting will occur between June 15 and September 15, the landscape contractor must first obtain approval from the engineer to begin installation outside of the normal planting seasons. If the engineer grants approval of the request, the contractor will also be held fully responsible for any and all additional maintenance associated with planting outside of the normal planting seasons including, but not limited to, supplemental watering above and beyond the typical, specified landscape maintenance and care cycle schedule.

Revise standard spec 632.3.1 to include the following:

Contractor shall take care not to damage or disturb adjacent finished landscape and will be responsible for seeding or sodding to repair any and all damage caused to adjacent seeded and/or sodded areas.

Revise standard spec 632.3.3 to include the following:

Landscape contractor shall stake out locations of all plant holes and obtain approval of staked location from construction representative or engineer before planting.

Revise standard spec 632.3.4 to include the following:

Ensure that the bottom of the hole is adequately compacted to guard against settling. Tamp or water in as necessary to create a condition by which plants will not settle in the planting beds. The bottom of the rootball shall be in direct contact with the bottom of the hole.

Revise standard spec 632.3.4 as follows:

The minimum horizontal measurement of the plant hole shall be no less than 24 inches greater than the diameter of the ball, container, or root mass for the full depth of the planting hole.

Standard spec 632.3.7 shall include the following:

Remove the burlap and other wrapping materials including, but not limited to, twine, wire baskets, and plastic ribbon, from the entire root ball of B&B plants unless engineer determines that removal of said material will be detrimental to plant stability and/or establishment, in which case removal of all but the very bottom of the basket will be required.

Revise standard spec 632.3.18.1.1 and standard spec 632.3.18.1.2 as follows:

The plant establishment period shall be two years and shall begin and end on the date of substantial landscape completion as determined by the engineer.

Standard spec 632.3.19.1 shall include the following:

The contractor shall remove all staking, bracing wire material, and other plant stabilization material at the end of the required establishment period.

The contractor shall leave in place all rodent protection measures at the end of the required establishment period.

The interval for a care cycle shall be 10-14 days between April 15 and October 31. There will be 13 required care cycles in a growing season.

The contractor shall perform a complete and thorough spring clean-out of all planting beds that contain trees, shrubs, perennials, ornamental grasses and/or bulbs. Spring clean-out shall be performed during the first care cycle of the year (between April 15 and May 1) or as soon as weather and growing season conditions permit. Contractor shall not perform spring clean-out until the ground is no longer saturated from the spring thaw; walking on saturated soil will result in compaction. Spring clean-out shall include removal of past-season herbaceous material that was left standing over winter, cutting back ornamental grasses to within 3-inches of the mulched surface, removing any material damaged over the winter by pruning according to the language outlined in standard spec 632, removal of trash or other debris that has accumulated in planting beds, removal of leaves or other plant debris that has accumulated on the top of the mulched surface, replenishing mulch, weeding, and any and all other clean-out and maintenance operations as directed by the engineer or as required to produce an aesthetically pleasing, healthy environment for plant growth.

The contractor shall perform a complete and thorough fall clean-out of all planting beds that contain trees, shrubs, perennials, ornamental grasses and/or bulbs. Fall clean-out shall be performed during the last care cycle of the year (between October 15 and October 31). Contractor shall not perform fall clean-out if the soil is saturated from rain events and shall wait until the soil moisture levels have gone down before performing the final bed clean-out. Fall clean-out shall include coordination with the individual municipality's Forester or Parks Manager to determine which herbaceous perennial and ornamental grass material to leave standing through the winter and which to cut back to the ground, removing any material damaged during the growing season by pruning according to the language outlined in standard spec 632, removal of trash or other debris that has accumulated in planting beds, removal of leaves or other plant debris that has accumulated on the top of the mulched surface, replenishing mulch, weeding, and any and all other clean-out and maintenance operations as directed by the engineer or as required to produce an aesthetically pleasing, healthy environment for plant growth.

The contractor shall provide supplemental water during the April 15 to October 31 maintenance period as often as necessary to ensure healthy, thriving, and established plant material. The contractor may need to provide supplemental water even if irrigation is installed as part of the project and shall coordinate directly with the municipality to ensure that the plant material is not being overwatered or under-watered. The contractor will remain solely responsible for plant health and watering maintenance even in the event of irrigation system installation.

Re-mulching is expected to be performed immediately prior to the end of the two-year proving period. Work is incidental to Landscape Planting Surveillance and Care Cycles bid item. Additional payment for re-mulching all planting beds and tree rings will not be granted.

19.2 Landscape Planting Surveillance and Care Cycles.

If the care specialist fails to perform any of the required care cycles as specified in standard spec 632.3.19.1, the department will assess daily damages in the amount of $1,000 per day to cover the cost of performing the work with other forces. The department will assess these damages for each day the requirements of the care cycle remain incomplete, except when the engineer extends the required time period.

19.3 Gates Pipe Single Leaf, 18 Ft., Item 616.0360.S.001.

A Description
This special provision describes furnishing and erecting single leaf pipe gates in accordance to the details shown on the plans and as hereinafter provided.

B Materials
Provide black, round steel pipe that is in accordance to ASTM Designation A53, Type F.

Provide hot-rolled round bar and miscellaneous steel plates that are in accordance to ASTM Designation A36M.

Provide Grade A Concrete Masonry that is in accordance to standard spec 501.

Provide zinc-coated bolts, nuts and washers that are in accordance to ASTM Designation A325.

B.1 Paint
Provide one of the following paint systems: Rust-Oleum 9300 System Heavy-Duty Epoxy Finish with a 9334 Zinc Rich Primer; Sherwin Williams Hi-Solids Catalyzed Epoxy Finish with a Zinc Rich Primer; or Devoe Tru-Glaze-3 Epoxy Gloss Coating with a Zinc Rich Primer.

The engineer will determine the paint color.

C Construction
After fabrication of the entire pipe gate, including hinge and locking posts, abrasive blast clean the gate to the requirements of Grade SSPC-SP-10 as specified by the Steel Structures Painting Council.

Give all metal components two coats of epoxy paint over a zinc rich primer in accordance to the applicable portions of standard spec 517.

Shop apply the primer and first coat. Field apply second finish coat after erection of gate.

D Measurement
The department will measure Gates Pipe Single Leaf 18 Ft. as each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
616.0360.S.001	Gates Pipe Single Leaf 18 Ft.	Each

Payment is full compensation for furnishing and installing all materials including pipe, concrete masonry, hardware, and steel plates; and for painting.
616-045 (20031103)

19.4 Fence Safety, Item 616.0700.S.

A Description
This special provision describes furnishing and installing a plastic fence at locations shown on the plans and as hereinafter provided.

B Materials
Furnish notched conventional metal “T” or “U” shaped fence posts.

Furnish fence fabric meeting the following requirements:

Color:	International orange (UV stabilized)
Roll Height:	4 feet
Mesh Opening:	1 inch min to 3 inch max
Resin/Construction:	High density polyethylene mesh
Service Temperature:	-60° F to 200° (ASTM D648)
Tensile Yield:	Avg. 2000 lb per 4 ft. width (ASTM D638)
Ultimate Tensile Strength:	Avg. 3000 lb per 4 ft. width (ASTM D638)
Elongation at Break (%):	Greater than 100% (ASTM D638)
Chemical Resistance:	Inert to most chemicals and acids

C Construction
Drive posts into the ground 12 to 18 inches. Space posts at 7 feet.

Use a minimum of three wire ties to secure the fence at each post. Weave tension wire through the top row of strands to provide a top stringer that prevents sagging.

Overlap two rolls at a post and secure with wire ties.

D Measurement
The department will measure Fence Safety by the linear foot along the base of the fence, center-to-center of posts, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
616.0700.S	Fence Safety	LF

Payment is full compensation for furnishing and installing fence and posts; maintaining the fence and posts in satisfactory condition; and for removing and disposing of fence and posts at project completion.
616-030 (20070510)

19.5 Section Survey Monuments, Reconstruct Project, Item SPV.0060.010.

A Description
This work shall consist of restoring existing section survey monuments for reconstruct projects.

B Materials
Brown County will supply a stainless steel survey nail with washer for section survey monumentation on pavements. The survey contact person from Brown County is Pat Ford, phone number is (920) 448-4493.

C Construction
Perform all section survey monument work under the direction of a land surveyor registered under s.443.06 Wisconsin Statues and in accordance to the details in the plan. The surveyor shall follow all rules in accordance to the Wisconsin Administrative Code A-E-7.

Locate the section survey monument and verify the distance to the existing landmark reference monuments using existing tie sheets obtained from Winnebago County prior to beginning construction operations.

Reestablish the section survey monuments from the tie information. Set the section survey nail 0.05 foot below the finished road surface. For survey nails set in concrete pavements, bore a hole as needed and set the survey nail in epoxy or mastic at depth stated above.

Produce an updated tie sheet of the reference monuments and section survey monument. Provide a copy of the updated tie sheet stamped by a registered land surveyor and accepted by: Brown County, the engineer, and WisDOT NE Region Survey Department.

Conduct construction operations as to not disturb any section survey monument or landmark reference monuments that are to remain. Landmark reference monument maintenance to replace missing reference monuments shall be considered extra work.

D Measurement
The department will measure Section Survey Monuments, Reconstruct Project as each individual section survey monument, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.010	Section Survey Monuments, Reconstruct Project	Each

Payment for Section Survey Monuments, Reconstruct Project is full compensation for initial verification, restoring monuments to its initial location, generating new tie sheets, and providing new tie sheets.
(NER41-20100201)

19.6 Planting Mixture, Item SPV.0035.500.

A Description
This special provision describes furnishing and installing Planting Mixture at the locations shown on the plans and in accordance to the requirements of standard spec 632, the plans, and as hereinafter provided.

B Materials

The landscape contractor who is responsible for furnishing and installing plant material shall also be solely responsible for obtaining planting mixture components, blending the mixture to the specified proportions, and for furnishing and installing the planting mixture.

B.1 Planting Mixture

The planting mixture consists of the following blend by volume:

- 2 parts topsoil. Topsoil shall conform to standard spec 625.
- 1 part sand. Obtain the engineer's approval for the sand.
- 1 part compost. Compost shall be either well-rotted shredded leaf mulch, free of disease; or well-rotted, unleached, stable or cattle manure containing no more than 25 percent by volume of straw, sawdust, or other bedding materials and free of toxic substances. Either shall be free of stones, sticks, soil, weed seeds, debris, and other material harmful to plant growth.
- 1 part peat moss. Peat moss shall conform to standard spec 632.

C Construction

C.1 Coordination

Planting Mixture shall be delivered to project site and installed no more than seven days before the start of planting operations for areas receiving Planting Mixture. It is the sole responsibility of the landscape contractor to fully coordinate and schedule the delivery and installation of the Planting Mixture with the delivery and installation of all landscape plant materials.

C.2 Planting Mixture Preparation and Placement

Contractor shall provide, in writing to the engineer, a list of all materials used in Planting Mixture including manufacturers and quantities and shall ensure that all materials meet the standards set forth in standard spec 625 and standard spec 632 and produce a planting mixture that provides a stable, healthy soil for plant growth.

Ensure proper excavation of planting area for all areas to receive Planting Mixture. Prepare areas by removing any construction materials, stone, or other debris larger than 2" in length or diameter for all areas.

Provide Planting Mixture for the central islands of roundabouts and for specialized planting beds as indicated in the plans.

Provide Planting Mixture over entire planting bed area and fine grade to match grades as indicated on plans or to adjacent back of curb or other hardscape surface as indicated on plans and account for settling. Place Planting Mixture in 6-inch to 8-inch lifts, watering in or tamping to reduce settling potential. A minimum of 24" depth shall be provided in the central islands of roundabouts and for specialized perennial beds as indicated in the plans.

Obtain approval of Planting Mixture depths, locations, and elevations by supervising engineer prior to planting.

D Measurement
The department will measure Planting Mixture by the cubic yard, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.500	Planting Mixture	CY

Payment is full compensation for furnishing and installing all materials.

19.7 Topsoil Special, Item SPV.0035.501.

A Description
This special provision describes excavating and disposing of material taken from within planting bed and tree planting locations in accordance to standard spec 205 and furnishing and installing topsoil at the planting bed and tree planting locations in accordance to the requirements of standard spec 625, the plans, and as hereinafter provided.

B Materials
Excavate materials in accordance to standard spec 205. Furnish topsoil materials in accordance to standard spec 625.

Ensure Topsoil Special is in a Ph range of 6.0 to 7.0.

C Construction
Excavate materials as the plans show or the engineer allows from the planting bed areas and tree planting areas in accordance to standard spec 205. Dispose of surplus or unsuitable material as specified in standard spec 205.3.12. Place Topsoil Special in accordance to standard spec 625 in locations shown on the plans, and to a depth of 24 inches.

D Measurement
The department will measure Topsoil Special by the cubic yard, acceptably completed as computed using the method of average end areas, with no correction for curvature.

If it is not possible to compute volumes of Topsoil Special by the method of average end areas, the department may compute the volumes by alternate methods involving 3-dimensional measurements.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.501	Topsoil Special	CY

Payment is full compensation for furnishing all materials, excavating and disposing of planting bed and tree planting area materials, furnishing and placing all topsoil materials in planting bed and tree planting areas, including excavation, loading, and hauling.

19.8 Perennials, Aster (Purple Dome), CG, 1 Gal, Item SPV.0060.500; Perennials, Bee Balm (Marshall's Delight), CG, 1 Gal, Item SPV.0060.501; Perennials, Black-Eyed-Susan (City Garden), CG, 1 Gal, Item SPV.0060.502; Perennials, Catmint (Walker's Low), CG, 1 Gal, Item SPV.0060.503; Perennials, Coneflower (White Swan), CG, 1 Gal, Item SPV.0060.504; Perennials, Daylily (Alabama Jubilee), CG, 1 Gal, Item SPV.0060.505; Perennials, Daylily (Flava), CG, 1 Gal, Item SPV.0060.506; Perennials, Daylily (Hyperion), CG, 1 Gal, Item SPV.0060.507; Perennials, Daylily (Pardon Me), CG, 1 Gal, Item SPV.0060.508; Perennials, Feather Reed Grass (Karl Foerster), CG, 3 Gal, Item SPV.0060.509; Perennials, Gayfeather, Spiked (Kobold), CG, 1 Gal, SPV.0060.510; Perennials, Little Bluestem (The Blues), CG, 1 Gal, SPV.0060.511; Perennials, Maidenhair Grass (Zebra), CG, 3 Gal, SPV.0060.512; Perennials, Prairie Dropseed, CG, 1 Gal, Item SPV.0060.513; Perennials, Salvia (May Night), CG, 1 Gal, Item SPV.0060.514; Perennials, Sedum (Autumn Joy), CG, 1 Gal, Item SPV.0060.515; Perennials, Switchgrass (Northwind), CG, 3 Gal, Item SPV.0060.516.

A Description

This special provision describes furnishing and installing Perennial Plants at the locations shown on the plans and in accordance to the requirements of standard spec 632, the plans, and as hereinafter provided.

B Materials

Provide Perennial Plants, as shown on plan, and complying with American Standard for Nursery Stock (ANSI Z60.1-2004) for type, shape, and height.

Plant Materials

All plants shall be grown within the states of Wisconsin, Minnesota, Michigan, or parts of northern Illinois, Indiana or Ohio located within Zone 5 of the "Plant Hardiness Zone Map" produced by the United States Department of Agriculture, Miscellaneous Publication No. 1475, issued January, 1990, unless otherwise approved by the engineer.

A list of sources for plants shall be furnished in accordance to standard spec 632.2.2.8 before planting begins for fall-planted plants and before March 15 for spring-planted plants. All sources will be subject to verification by the engineer.

Provide type B fertilizer conforming to standard spec 629.

C Construction

Ensure that Planting Mixture has been placed according to specifications.

Stake out location of plantings for approval by engineer.

Ensure that the bottom of the hole is adequately compacted to guard against settling. Tamp or water in as necessary to create a condition by which plants will not settle in the planting beds. The bottom of the root ball shall be in direct contact with the bottom of the hole.

Install Perennial Plants and mulching as shown on the plan and as per the standard specifications.

D Measurement

The department will measure Perennials (Type) by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.500	Perennials, Aster (Purple Dome), CG, 1 Gal	Each
SPV.0060.501	Perennials, Bee Balm (Marshall's Delight), CG, 1 Gal	Each
SPV.0060.502	Perennials, Black-Eyed-Susan (City Garden), CG, 1 Gal	Each
SPV.0060.503	Perennials, Catmint (Walker's Low), CG, 1 Gal	Each
SPV.0060.504	Perennials, Coneflower (White Swan), CG, 1 Gal	Each
SPV.0060.505	Perennials, Daylily (Alabama Jubilee), CG, 1 Gal	Each
SPV.0060.506	Perennials, Daylily (Flava), CG, 1 Gal	Each
SPV.0060.507	Perennials, Daylily (Hyperion), CG, 1 Gal	Each
SPV.0060.508	Perennials, Daylily (Pardon Me), CG, 1 Gal	Each
SPV.0060.509	Perennials, Feather Reed Grass (Karl Foerster), CG, 3 Gal	Each
SPV.0060.510	Perennials, Gayfeather, Spiked (Kobold), CG, 1 Gal	Each
SPV.0060.511	Perennials, Little Bluestem (The Blues), CG, 1 Gal	Each
SPV.0060.512	Perennials, Maidenhair Grass (Zebra), CG, 3 Gal	Each
SPV.0060.513	Perennials, Prairie Dropseed, CG, 1 Gal	Each
SPV.0060.514	Perennials, Salvia (May Night), CG, 1 Gal	Each
SPV.0060.515	Perennials, Sedum (Autumn Joy), CG, 1 Gal	Each
SPV.0060.516	Perennials, Swithgrass (Northwind), CG, 3 Gal	Each

Payment for Perennials bid item are full compensation for providing, transporting, handling, storing, pruning, placing, and replacing plant materials; for excavating all plant holes, salvaging topsoil, mixing, and backfilling; for providing and applying all required fertilizer, mulch, water, rodent protection, herbicides and anti-desiccant spray; and for disposing of all excess and waste materials. Payment for Topsoil bid item used in planting will be as specified in standard spec 625 and SPV.0035.500, Planting Mixture.

19.9 Annuals, Canna (President), Bulb/CG, 4-Eye Minimum, Item SPV.0060.517.

A Description

This special provision describes furnishing and installing Annuals at the locations shown on the plans and in accordance to the requirements this section.

B Materials

Provide *Canna* 'President', as shown on plan, and complying with American Standard for Nursery Stock (ANSI Z60.1-2004) for type, shape, size, and quality.

Bulbs shall be 4 Eye Minimum. Store bulbs, corms, and tubers in a dry place at 60 to 65 degree F until planting. Store pre-potted plant material in a shaded location and protect from drying winds and other damage.

Container-grown stock shall be 1 gallon (Gal) container (Cont.) minimum and shall display a well-developed root system and display a minimum of 12" of top growth. Annuals shall not be in full flower when planted.

Provide fertilizer conforming to standard spec 632.2.4.2.

C Construction

C.1 Planting Timing

If plant installation will be completed before August 1, pre-potted, rooted, and growing *Canna* 'President' (1 Gal. Cont.) can be planted along with the rest of the plant material in the roundabout.

If plant installation will occur after August 1, the contractor will be required to furnish and install *Canna* 'President' the following growing season according to the schedule outlined in this Section. The contractor may then chose to install *Canna* 'President' in bulb form according to this Section, OR may chose to install *Canna* 'President' as pre-potted, rooted, and grown material (1 Gal. Cont.).

Bulb Planting Option: *Canna* 'President' bulbs must be planted between May 30 and June 15 and only after danger of hard frost is gone. Bulb planting may or may not correspond to landscape plant installation timing. Bulbs may not be planted in fall or at any other time period other than the specified period for Bulb Planting Option.

Pre-Grown Container Option: *Canna* 'President' can be obtained from a local nursery pre-potted and rooted in a minimum size of 1 gallon container (1 Gal. Cont.). Pre-potted plants must be planted between May 15 and June 15 and only after danger of hard frost is gone. Planting may or may not correspond to landscape plant installation timing. Plants may not be planted in fall or at any other time period other than the specified period for Pre-Grown Container Option.

If the contractor fails to perform the bulb plantings as specified in this section and/or performs the plantings outside of the acceptable planting periods, the department will assess damages in the amount of $5,000 to cover the cost of performing the work with other forces. The department will assess these damages if the contractor fails to install *Canna* 'President' during the first available spring planting season, except when the engineer extends the required time period.

C.2 Preparation

Ensure that Planting Mixture has been placed according to specifications.

Stake out location of *Canna* 'President' plantings for approval by engineer.

C.3 Planting

Bulb Planting: Dig a single hole for each bulb (rhizome) 12 to 18 inches apart to a depth of approximately 3 to 5 inches. Place bulbs horizontally in the hole with bud nodes (eyes) pointing upward. Mix planting soil blend and fertilizer based on manufacturer's written instructions and fill hole with soil+fertilizer blend and finish to match adjacent soil grades. Lightly tamp the backfilled soil and apply mulch over the top of the planted area. Water generously.

Pre-Grown, Potted Planting: Ensure that the bottom of the hole is adequately compacted to guard against settling. Tamp or water in as necessary to create a condition by which plants will not settle in the planting beds. The bottom of the rootball shall be in direct contact with the bottom of the hole.

Cannas shall be watered generously by slowly soaking the area around the roots once per Landscape Planting Surveillance and Care Cycle.

The contractor will not be held responsible for re-planting annual plant material after completion of the first year of the Plant Establishment Period.

D Measurement

The department will measure Annuals (Type) by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.517	Annuals, Canna (President), Bulb/CG, 4 Eye Minimum	Each

Payment for Annuals bid item are full compensation for providing, transporting, handling, storing, placing, and replacing plant materials; for excavating all plant holes, salvaging topsoil, mixing, and backfilling; for providing and applying all required fertilizer, mulch, water, rodent protection, herbicides and anti-desiccant spray; and for disposing of all excess and waste materials. Payment for Topsoil bid item used in planting will be as specified in standard spec 625 and SPV.0035.500, Planting Mixture.

19.10 Bulbs, Daffodil, 'Stainless', Bulb, DN I, Item SPV.0060.518; Bulbs, Tulip, 'American Dream', Bulb, 12+cm, Item SPV.0060.519; Bulbs, Tulip, 'Jaap Groot', Bulb, 12+cm, Item SPV.0060.520.

A Description

This special provision describes furnishing and installing Bulbs at the locations and quantities indicated in the Plant Quantities Tables and in accordance to the requirements this Section.

B Materials

Provide Bulbs complying with American Standard for Nursery Stock (ANSI Z60.1-2004) for type, shape, size, and quality.

Bulbs shall be top grade as determined by American Standard for Nursery Stock, current edition and shall be firm and plump, free of cuts, bruises and damage. Soft and/or shriveled bulbs may not be used. Store bulbs, corms, and tubers in a dry place at 60 to 65 degree F until planting.

Provide fertilizer conforming to standard spec 632.2.4.2.

C Construction

C.1 Planting Timing

If plant installation will be completed after September 15, the contractor can install bulbs as part of the plant installation.

If plant installation will occur before September 15, the contractor will be required to furnish and install bulbs the following growing season according to the schedule outlined in this Section.

Bulb Planting: Bulbs must be planted between September 15 to November 15. Bulb planting may or may not correspond to landscape plant installation timing. Bulbs may not be planted in spring, summer or at any other time period other than the specified period for Bulb Planting.

If the contractor fails to perform the bulb plantings as specified in this section and/or performs the plantings outside of the acceptable planting periods, the department will assess damages in the amount of $5,000 to cover the cost of performing the work with other forces. The department will assess these damages if the contractor fails to install the bulbs during the first available fall planting season, except when the engineer extends the required time period.

C.2 Preparation
Ensure that Planting Mixture has been placed according to specifications.

Bulbs shall be placed in clusters of three to five.

The bulb clusters shall be randomly placed throughout the planting bed in locations that are highly visible from the circulating roadway. Do not place bulbs at the high points of the roundabouts inside of layers of trees and/or shrubs where they would be obscured from views from the circulating roadway.

Stake out location general of bulb clusters for approval by engineer.

C.3 Planting
The contractor shall take care not to disturb other plantings and/or irrigation during bulb planting operations and will be fully responsible for repairing and/or replacing plants or irrigation damaged during bulb planting.

Bulb Planting: Dig a single hole for each grouping of bulbs as indicated in the planting plan to a depth that is twice the length of the bulb itself; typically about 3 to 5 inches deep. Loosen the soil at the edges and bottom of the hole. Place bulbs securely in the hole with bud nodes (tips) pointing upward. Mix planting soil blend and fertilizer based on manufacturer's written instructions and fill hole with soil+fertilizer blend and finish to match adjacent soil grades. Lightly tamp the backfilled soil and apply mulch over the top of the planted area. Water bulb plantings only if the planting soil blend is extremely dry; do not soak bulbs. Never water directly into the hole after the bulbs are placed and before the planting soil is replaced.

The contractor will not be held responsible for re-planting bulbs after completion of the first installation.

D Measurement
The department will measure Bulbs (Type) by each individual unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.518	Bulbs, Daffodil (Stainless), Bulb, DN I	Each
SPV.0060.519	Bulbs, Tulip (American Dream), Bulb, 12+cm	Each
SPV.0060.520	Bulbs, Tulip, (Jaap Groot), Bulb, 12+cm	Each

Payment for Bulbs bid item are full compensation for providing, transporting, handling, storing, placing, and replacing plant materials; for excavating all plant holes, salvaging topsoil, mixing, and backfilling; for providing and applying all required fertilizer, mulch, water, rodent protection, herbicides and anti-desiccant spray; and for disposing of all excess and waste materials. Payment for Topsoil bid item used in planting will be as specified in standard spec 625 and SPV.0035.500, Planting Mixture.

19.11 Fence Chain Link Polymer-Coated 4-Ft, Item SPV.0090.010.

A Description

This special provision describes furnishing and installing a new polymer-coated fence system in accordance to the pertinent plan details, as directed by the engineer and as hereinafter provided. The color of all components in this fence system shall be the same and shall be black.

B Materials

All materials for this fence system shall be new stock, free from defects impairing strength, durability, and appearance. Fabric shall be produced by methods recognized as good commercial practice. Wire used in the manufacture of the fabric shall be capable of being woven into fabric without the polymer-coating cracking or peeling. Pipes used in framework shall be straight, true to section and free of defects. All burrs at the ends of pipes shall be removed before galvanizing. The polymer-coating shall be a dense impervious covering, applied without voids, tears or cuts that reveal the substrate. Excessive roughness, bubbles, blisters and flaking in the polymer-coating will be a basis for rejection.

B.1 Fabric

Provide steel chain link fence fabric that conforms to the requirements of ASTM F668, Class 2b, a polymer-coating fused and adhered to wire that is zinc-coated. Provide fabric woven from 9-gage wire using plan specified mesh size, diamond pattern, with both the top and bottom selvages knuckled. The minimum breaking strength of the wire shall be 1290 lbs. The color of polymer-coating shall conform to the requirements of ASTM F934.

B.2 Framework

Provide steel rails, posts and post sleeves conforming to the requirements of ASTM F1083, Standard Weight Pipe (Schedule 40) of the size (O.D.) and weight as shown on the plans. The minimum yield strength shall be 30,000 psi and the minimum tensile strength shall be 48,000 psi. These components shall be zinc-coated inside and outside by the hot-dip process as stated in ASTM F1083. Provide polymer-coating over zinc-coating that conforms to ASTM F1043. The color of polymer-coating shall conform to the requirements of ASTM F934, and match the color of the other fence components. Weld

base plate to posts or post sleeves and complete any additional welding of components before galvanizing.

B.3 Fittings

Provide end post caps, line post caps, top rail sleeves, rail ends, line rail clamps, brace bands, tension bands, tension bars, and tie wires that are steel and conform to the requirements of ASTM F626. Tie wires shall be round and 9-gage wire. These components (excluding tie wires) shall be zinc-coated by the hot-dip process as stated in ASTM F626. Provide polymer-coating over zinc-coating on components (excluding tie wires) that conforms to the requirements of ASTM F626. For tie wires, provide polymer-coating on wire that is zinc-coated using the same procedure as used for the wires in the fence fabric. End post caps and line post caps shall fit tightly over posts to prevent moisture intrusion. Supply dome style caps for end posts and loop type caps for line posts. The color of polymer-coating shall conform to the requirements of ASTM F934, and match the color of the other fence components.

B.4 Bolts

All bolts are to be supplied with lock washers and nuts. Use galvanized steel bolts, nuts and washers per plan details.

B.5 Tests

B.5.1 Fabric and Tie Wire

Breaking Strength:	ASTM A370
Zinc-Coating Requirements	
Weight of Zinc-Coating:	ASTM A90
Polymer-Coating Requirements	
Thickness of Polymer-Coating:	ASTM F668
Adhesion:	ASTM F668
Accelerated Aging Test:	ASTM F668, D1499
Mandrel Bend Test:	ASTM F668

B.5.2 Framework

Tensile and Yield Strength:	ASTM E8
Zinc-Coating Requirements	
Weight of Zinc-Coating:	ASTM A90
Polymer-Coating Requirements	
Thickness of Polymer-Coating:	ASTM E376
Adhesion:	ASTM F1043
Accelerated Aging Test:	ASTM F1043, D1499

B.5.3 Fittings

Zinc-Coating Requirements		
Weight of Zinc-Coating:	ASTM A90	
Polymer-Coating Requirements		
Thickness of Polymer-Coating:	ASTM F626	
Adhesion:	ASTM F1043	(same test as for framework)
Accelerated Aging Test:	ASTM F1043, D1499	(same test as for framework)

B.6 Submittals

In addition to the engineer, send submittals listed in this section to the name below for informational purposes:

David Nelson
WisDOT (Bureau of Structures)
4802 Sheboygan Ave. Room 601
PO Box 7916
Madison, WI 53707

B.6.1 Shop Drawings

Submit shop drawings showing the details of fence construction. Show the fence height, post spacing, rail location, and all dimensions necessary for the construction of the chain link fence. Label the end posts, line posts, rails, post sleeves, top rail sleeves, bolts and fittings. State the polymer-coating type used on the fabric, framework and fittings and the Class of coating used on the fabric. State the color of polymer-coating to be used on the fence components. For the fabric, state the wire gage, mesh size, and type of selvages used. For the framework, state the size (O.D.) and unit weight for the posts and rails. For the fittings, state the size for top rail sleeves, brace bands, tension bands, tension bars, line rail clamps, size and type of bolts, and the tie wire gage. State the material type used for fabric, framework, and fittings. Also give the breaking strength for the fabric wire and the tensile and yield strength properties for the framework.

B.6.2 Specification Compliance

Submit certification of compliance with material specifications. Provide material certification and test documentation for fabric, framework, fittings and hardware that shows that all materials meet or exceed the specifications of this contract and the tests in B**5**. This document shall provide the name, address and phone number of the manufacturer, and the name of a contact person.

C Construction

C.1 Delivery, Storage and Handling

Deliver material to the site in an undamaged condition. Upon receipt at the job site, thoroughly inspect all materials to ensure that no damage occurred during shipping or handling and condition of materials is in conformance with these specifications. If polymer-coating is damaged, repair or replace components as necessary to the approval of the engineer at no additional cost to the department. Carefully store material off the ground to ensure proper ventilation and drainage and to provide protection against damage caused by ground moisture. Handle all polymer-coated material with care.

C.2 Touch-up and Repair
For minor damage caused by shipping, handling or installation to polymer-coated surfaces, touch-up the finish in conformance with the manufacturer's recommendations. Provide touch-up coating such that repairs are not visible from a distance of 6-feet. If damage is beyond repair, replace the fencing component at no additional cost to the department. Provide the engineer with a copy of the manufacturer's recommended repair procedure and materials before repairing damaged coatings.

C.3 General
Install the chain link fence in accordance to ASTM F567 and the manufacturer's instructions. Provide staff that is thoroughly familiar with the type of construction involved and materials and techniques specified. Install chain link fabric on the side of the posts indicated on the plans. Attach fabric to the end posts with tension bars and tension bands. Attach fabric to rails, and posts without tension bands, with tie wires. Pull installed fabric taut to provide a smooth and uniform appearance free from sag, without permanently distorting the fabric diamond or reducing the fabric height. Install top rail to pass through line post caps and form a continuous brace between end posts. Minimum length of top rail between splices shall be 20-feet. Splice top rail at joints with sleeves for a rigid connection. Locate splices near ¼ point of post spacing. Heads of bolts shall be on the side of the fence adjacent to pedestrian traffic.

D Measurement
The department will measure Fence Chain Link Polymer-Coated 4-Ft by the linear foot, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.010	Fence Chain Link Polymer-Coated 4-Ft	LF

Payment is full compensation for fabricating, galvanizing and polymer-coating all fence components, and transporting to jobsite; for erecting components to create a polymer-coated fence system, including any touch-up and repairs.

19.12 Aluminum Edging, Item SPV.0090.500.

A Description
This special provision describes furnishing and installing Aluminum Edging at the locations shown on the plans and in accordance to the requirements of standard spec 632, the plans, and as hereinafter provided.

B Materials
Provide Standard-profile extruded-aluminum edging, ASTM B221, alloy 6063-T6, fabricated in standard lengths with interlocking sections with loops stamped from face of

sections to receive stakes. Edging size shall be1/8 inch wide by 5-1/2 inch deep. Finish shall be black anodized.

Stakes shall be aluminum, ASTM B221, Alloy 6061-T6, approximately 1-1/2 inches wide by 12 inches long. Finish shall be black anodized.

C Construction

Contractor shall examine elevation and slope of structural fill and planting mixture and ensure that adequate slopes and elevations have been provided according to the drawings before placing any edging materials. In the event that inadequate materials levels or slopes are present, contractor shall contact the engineer immediately and shall not proceed with edging installation until any and all unsatisfactory conditions have been corrected.

Install aluminum edging where indicated in plans and according to manufacturer's written instructions. Anchor with aluminum stakes spaced approximately 36 inches apart, driven below top elevation of edging. Finished elevation of edging shall be no less than ½" and no greater than 1" above the finished elevation of adjacent mulched surfaces.

Place the edging in such a manner as to not damage plants, structures, and/or other materials already in place.

D Measurement

The department will measure Aluminum Edging by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.500	Aluminum Edging	LF

Payment is full compensation for furnishing and installing all materials.

19.13 Survey Project 1133-10-75, Item SPV.0105.002; Survey Project 1133-10-77, Item SPV.0105.003.

A Description

Perform work according to standard spec 105.6 and standard spe 650.

Standard specs 105.6 and 650 are modified to define the requirements for construction staking for this contract.

Replace standard spec 105.6.2 with the following:

The department will not perform any construction staking for this contract. The contractor shall perform all survey required to layout and construct the work under this contract, subject to engineer's approval.

The survey includes establishing horizontal and vertical position for all aspects of construction including but not limited to storm sewer, subgrade, base, curb, gutter, curb and gutter, pipe culverts, structure layout, pavement, barriers (temporary and permanent), electrical installations, supplemental control, slope stakes, ponds, ITS, FTMS, ramp gates, parking lots, utilities, landscaping elements, irrigation system layout, installation of community sensitive design elements, traffic control items, fencing, etc.

The department may choose to perform quality assurance survey during construction. This quality assurance survey does not relieve the contractor of the responsibility for furnishing all survey work required under this contract.

Delete standard spec 650.1.

B (Vacant)

C Construction
Survey required under this item shall be in accordance to all pertinent requirements of standard spec 650 and shall include all other miscellaneous survey required to layout and construct all work under this contract.

D Measurement
The department will measure Survey Project 1133-10-71, Survey Project 1133-10-75, and Survey Project 1133-10-77 as a single lump sum unit, acceptably completed.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.002	Survey Project 1133-10-75	LS
SPV.0105.003	Survey Project 1133-10-77	LS

Payment is full compensation for performing all survey work required to layout and construct all work under this contract.
(NER41-20110718)

19.14 Water for Seeded Areas, Item SPV.0120.001.

A Description
This special provision describes furnishing, hauling and applying water to seeded areas along the realigned Beaver Dam creek as directed by the engineer, and as hereinafter provided.

B Materials
Provide water that is free from impurities or substances that might injure the seed or plants.

C Construction
If rainfall is not sufficient, keep all seeded areas thoroughly moist by watering or sprinkling. Water for 30 days after seed placement or as the engineer directs. Apply water in a manner to preclude washing or erosion. The topsoil shall not be left un-watered for more than 3 days during this 30-day period unless the engineer determines that it is excessively wet and does not require watering. The equivalent of one inch of rainfall per week shall be considered the minimum.

D Measurement
The department will measure Water for Seeded Areas by the thousand gallon units (MGAL), acceptably completed. The department will determine volume by engineer-approved meters or from tanks of known capacity.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0120.001	Water for Seeded Areas	MGAL

Payment is full compensation for furnishing, hauling, and applying the water.

19.15 Shredded Hardwood Bark Mulch, Item SPV.0180.500.

A Description
This special provision describes furnishing and installing Shredded Hardwood Bark Mulch at the locations shown on the plans and in accordance to the requirements of standard spec 632, the plans, and as hereinafter provided.

B Materials
Provide Shredded Hardwood Bark Mulch, as shown on plan and in accordance to standard spec 632.2.6.

Shredded Hardwood Bark Mulch shall be finely shredded hardwood bark mulch and shall be the product of a mechanical chipper, hammermill, or tub grinder. The material shall be fibrous and uniformly dark brown in color, free of large wood chunks, and shall be substantially free of mold, dirt, sawdust, and foreign material. No portion of the material shall be in an advanced state of decomposition. The material shall not contain chipped up manufactured boards or chemically treated wood, including but not limited to wafer board, particle board, and chromated copper arsenate (CCA) or penta-treated wood. The material shall contain no bark of the black walnut tree. The material, when air dried, shall all pass a 4-inch screen and no more than 20 percent by mass of the material shall pass a 0.10-inch sieve. Unattached bark or greenleaf composition, either singly or combined,

shall not exceed 20 percent each by mass. The maximum length of individual pieces shall not exceed 4 inches.

C Construction

Install mulch in accordance to standard spec 632.3.9 to a depth of 3 inches over entire area of bed.

Do not use any weed barrier fabric in bark mulch areas.

Place the hardwood bark mulch in such a manner as to not damage plants already in place.

D Measurement

The department will measure Shredded Hardwood Bark Mulch by the square yard, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.500	Shredded Hardwood Bark Mulch	SY

Payment is full compensation for furnishing and installing all materials.

ADDITIONAL SPECIAL PROVISION 1 (ASP 1)
FOR TRANSPORTATION ALLIANCE FOR NEW SOLUTIONS (TrANS)
PROGRAM EMPLOYMENT PLACEMENTS AND APPRENTICESHIPS

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 5204(e) – Surface Transportation Workforce Development Training and Education, provides for 100 percent Federal funding if the core program funds are used for training, education, or workforce development purposes, including "pipeline" activities. The core programs includes: Congestion Mitigation and Air Quality Improvement (CMAQ) Program, Highway Bridge Program (HBP), Interstate Maintenance (IM), National Highway System (NHS), and Surface Transportation Program (STP). These workforce development activities cover surface transportation workers, including OJT/SS programs for women and minorities as authorized in 23 U.S.C. §140(b).

TrANS is an employment program originally established in 1995 in Southeastern Wisconsin. Currently TrANS has expanded to include TrANS program locations to serve contractors in Southeast (Milwaukee and surrounding counties), Southcentral (Dane County and surrounding counties including Rock County), and most Northeastern Wisconsin counties from locations in Keshena, Rhinelander and surrounding far Northern areas. TrANS attempts to meet contractor's needs in other geographic locations as possible. It is an industry driven plan of services to address the outreach, preparation, placement and retention of women, minorities and non-minorities as laborers and apprentices in the highway skilled trades. These candidate preparation and contractor coordination services are provided by community based organizations. For a list of the TrANS Coordinators contact the Disadvantaged Business Enterprise Office at (414) 438-4583 in Milwaukee or (608) 266-6961 in Madison. These services are provided to you at no cost.

I. BASIC CONCEPTS

Training reimbursements to employing contractors for new placements, rehires or promotions to apprentice of TrANS Program graduates will be made as follows:

1) **On-the-Job Training, Item ASP.1T0G, ASP 1 Graduate.** At the rate of $5.00 per hour on federal aid projects when TrANS graduates are initially hired, or seasonally rehired, as unskilled laborers or the equivalent.

   Eligibility and Duration: To the employing contractor, for up to 2000 hours from the point of initial hire as a TrANS program placement.

   Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 12 *(number)* TrANS Graduate(s) be utilized on this contract.

2) **On-the-Job Training, Item ASP.1T0A, ASP 1 Apprentice.** At the rate of $5.00 per hour on federal aid projects at the point when an employee who came out of the TrANS Program is subsequently entered into an apprenticeship contract in an underutilized skilled trade (this will include the Skilled Laborer Apprenticeship when that standard is implemented).

Eligibility and Duration: To the employing contractor, for the length of time the TrANS graduate is in apprentice status.

Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that __7__ *(number)* TrANS Apprentice(s) be utilized on this contract.

3) The maximum duration of reimbursement is two years as a TrANS graduate plus time in apprentice status.

4) If a TrANS program is not available in the contractor's area and another training program is utilized, payment of On-the-Job Training hours may be approved by the Wisconsin Department of Transportation (WisDOT) if the training program meets the established acceptance criteria. Only On-the-Job Training Hours accumulated after WisDOT approval will be reimbursed as specified under Items ASP.1T0G and ASP.1T0A. For more information, contact the Disadvantaged Business Enterprise Office at the phone numbers listed above.

5) WisDOT reserves the right to deny payments under items ASP.1T0G and ASP.1T0A if the contractor either fails to provide training or there is evidence of a lack of good faith in meeting the requirements of this training special provision.

I. RATIONALE AND SPECIAL NOTE

The $5.00 per hour now being paid for TrANS placements is intended to cover the duration of two years to allow for reaching entry-level laborer status. An additional incentive, the $5.00 rate, would promote movement into the underutilized skilled trades' apprenticeships and applies until the individual completes their apprenticeship. These incentives benefit TrANS candidates by giving them a better opportunity to enter a skilled trade; benefits contractors who will be assisted in meeting their EEO profiles and goals; and benefits the public who will see the program reinforce larger public-private employment reform in Wisconsin. The pool of TrANS graduates was created for the purpose of addressing underutilization in the skilled trades, an objective that is further reinforced by a parallel retention pilot program, known as the Companywide Reporting. *Whether or not reimbursement is involved, the WisDOT reassures contractors who are in the Companywide Program that TrANS placements still contribute toward fulfilling the new hire goal of 50% women and minorities.* Based on data administered by United States Department of Labor (US DOL), the highway skilled trades remain underutilized for women statewide (less than 6.9%); and for minorities in all counties (% varies by county).

NOTE: *Unless using other advancement strategies, contractors are encouraged to use some or all of this monetary incentive to offset the cut in hourly wages an individual may incur when entering an apprenticeship if the full general laborer hourly rate has been previously paid. No special accounting measures are required.*

II. IMPLEMENTATION

The implementation of ASP 1 is intended to cover only the amount of time it takes for underutilization to be resolved across the trades. This will be measured annually at the county and/or state levels using data administered by WisDWD in relation to goals set by the USDOL-

OFCCP. With appropriate state and federal approvals, we may also do some measurement at the company level.

It is the contractor's responsibility to note on their Certified Payrolls if their employee is a TrANS graduate or a TrANS apprentice. The District EEO Coordinators utilize the information on the Certified Payrolls to track the hours accumulated by TrANS Graduates and TrANS apprentices on WisDOT contracts. Payment under this ASP 1 is made based on the hours recorded off of the Certified Payrolls. Tracking may eventually include improved linkages with the WisDWD apprentice database, information from company and committee level sources.

TrANS is nondiscriminatory by regulation, and is a tool for optional use by contractors to address the underutilization of women and minorities as laborers and apprentices in our industry's skilled trades.

IV. *TRANS TRAINING*

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided to employees enrolled in apprenticeship and on-the-job training programs as follows:

The contractor shall provide on-the-job training aimed at developing full journey workers in the type of trade or job classifications involved. In the event the contractor subcontracts a portion of the contract work, the contractor shall determine how many, if any, of the trainees are to be trained by the subcontractor provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract.

Training and upgrading of minorities and women toward journey workers status is a primary objective of this training special provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority trainees and women trainees); to the extent such persons are available within a reasonable area of recruitment. The contractor will be given an opportunity and will be responsible for demonstrating the steps that they have taken in pursuance thereof, prior to determination as to whether the contractor is in compliance with this training special provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journey workers status or in which they have been employed as a journey worker. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the contractor's records should document the findings in each case.

V. APPRENTICESHIP TRAINING

The Federal Highway Administration's (FHWA) policy is to require full use of all available training and skill improvement opportunities to assure increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The FHWA On-the-Job Training (OJT) Program requires the State transportation agencies (STAs) to establish apprenticeships and training programs targeted to move women, minorities, and disadvantaged individuals into journey-level positions to ensure that a competent workforce is available to meet highway construction hiring needs, and to address the historical under-representation of members of these groups in highway construction skilled crafts.

The OJT Supportive Services (OJT/SS) Program was established in Title 23 Code of Federal Regulations (CFR), Part 230) to supplement the OJT program and support STA training programs by providing services to highway construction contractors and assistance to highway construction apprentices and trainees. The primary objectives of OJT/SS are:

(1) To increase the overall effectiveness of the State highway agencies' approved training programs.
(2) To seek other ways to increase the training opportunities for women, minorities, and disadvantaged individuals.

The STAs are responsible for establishing procedures, subject to the availability of Surface Transportation and Bridge Funds under 23 U.S.C. §140(b*)* (Nondiscrimination), for the provision of supportive services with respect to training programs approved under 23 CFR, Part 230(a*)* (Equal Employment Opportunity on Federal and Federal-aid Construction Contracts – including Supportive Services).

The contractor and subcontractor shall maintain records to demonstrate compliance with these apprenticeship requirements. Reasonable exemptions and modifications to and from any or all of these requirements will be determined by the Wisconsin Department of Transportation-Civil Rights Office. A request for an exemption or modification, with justification, shall be made in writing, addressed to WisDOT Civil Rights Office, 4802 Sheboygan Avenue, P.O. Box 7965, Rm. 451, Madison, WI 53707.

ADDITIONAL SPECIAL PROVISION 3
DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

1. Description

General

a. The disadvantaged business enterprise (DBE) requirements of 49 CFR Part 26 apply to this contract. The department's DBE goal is shown on the cover of the bidding proposal. The contractor can meet the specified contract DBE goal by procuring services or materials from a DBE or by subcontracting work to a DBE. The department calculates the DBE participation as the dollar value of DBE participation included in the bid expressed as a percentage of the total contract bid amount.

b. Under the contract, the contractor agrees to provide the assistance to participating DBE's in the following areas:

   i. Produce accurate and complete quotes.
   ii. Understand highway plans applicable to their work.
   iii. Understand specifications and contract requirements applicable to their work.
   iv. Understand contracting reporting requirements.

c. The department encourages the contractor to assist and develop DBE firms to become fully knowledgeable contractors to successfully perform on its contracts.

d. For information on the disadvantaged business program, visit the department's Civil Rights and Compliance Section website at:

   http://www.dot.wisconsin.gov/business/engrserv/dbe-main.htm

2. Definitions

a. Interpret these terms, used throughout this additional special provision, as follows:

   i. **Bid Percentage:** The DBE percentage indicated in the bidding proposal at the time of bid.
   ii. **DBE:** A disadvantaged business enterprise (DBE) certified as a DBE by the department and included on the department's list of certified DBE's who are determined to be ready, willing and able.
   iii. **DBE goal:** The amount of DBE participation expected in the contract as shown on the cover of the Highway Work Proposal.
   iv. **Discretionary Goal:** A contractor assigned DBE goal, typically abbreviated as “Disc” on the cover of the Highway Work Proposal, which is enforced as committed.
   v. **Manufacturer:** A firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract.
   vi. **Supplier:** A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment required under the contract are bought, kept in stock, and regularly sold or leased to the public.
   vii. **Voluntary Achievement:** The amount of DBE participation achieved and reported in the contract in excess of the assigned goal.

3. DBE Percentage Required at Bid Submission

Indicate the bid percentage (i.e. 0% through 100%) of DBE participation on the completed bidding proposal, including projects with discretionary goals. For electronic submittals, show the percentage in the miscellaneous data folder, Item 3, DBE Percent. For paper submittals, show the percentage on the sheet included after the schedule of items. By submission of the bid, the bidder contractually commits to DBE participation at or above the bid percentage, or certifies that they have utilized

comprehensive good faith efforts to solicit and utilize DBE firms to meet the DBE participation requirements of this contract proposal, and that the bid percentage is reflective of these good faith efforts. If the bidder does not indicate the bid percentage of DBE participation on the completed bidding proposal, the department will consider the bid irregular and may reject the bid.

4. Department's DBE Evaluation Process

a. Documentation Submittal

Within 10 business days after the notification of contract award, the contractor is to identify, by name, the DBE firms whose utilization is intended to satisfy this provision, the items of work of the DBE subcontract or supply agreement and the dollar value of those items of work by completing the Commitment to Subcontract to DBE Form [DT1506] and all necessary attachment A forms, as well as, Good Faith Waiver Form [DT1202] and supporting documentation as necessary. If the contractor fails to furnish the required forms within the specified time, the department may cancel the award. Delay in fulfilling this requirement is not a cause for extension of the contract time and shall not be used as a tool to delay execution.

i. Bidder Meets DBE Goal

If the bidder indicates that the contract DBE goal is met, after award and before execution, the department will evaluate the Commitment to Subcontract to DBE Form DT1506 and attachment A(s) to verify the actual DBE percentage achieved. If the DBE commitment is verified, the contract is eligible for execution with respect to the DBE commitment.

ii. Bidder Does Not Meet DBE Goal

(1) If the bidder indicates a bid percentage on the Commitment to Subcontract to DBE Form [DT1506] that does not meet the contract DBE goal, the bidder must submit a Good Faith Waiver Form [DT1202] and supporting documentation. After award and before execution, the department will evaluate the bidder's DBE commitment and consider the bidder's good faith waiver request.

(2) The department will review the bidder's good faith waiver request and notify the bidder of one of the following:

a. If the department grants a good faith waiver, the bid is eligible for contract execution with respect to DBE commitment.

b. If the department rejects the good faith waiver request, the department may declare the bid ineligible for execution. The department will provide a written explanation of why the good faith waiver request was rejected. The bidder may appeal the department's rejection as allowed under 7 a. & b.

5. Department's Criteria for Good Faith Effort

The Code of Federal Regulations {CFR}, 49 CFR Part 26-Appendix A, is the guiding regulation concerning good faith efforts. However, the federal regulations do not define “good faith” but states that bidder must actively and aggressively attempt to meet the goal. The federal regulations are general and do not include every factor or effort that can be considered. As a result, each state must establish its own processes and consider the factors established in its own process when making a determination of good faith.

a. The department will only grant a good faith waiver if the bidder has made the effort, given the relevant circumstances under the contract that a bidder actively and aggressively seeking to meet the goal would make. The department will evaluate the bidder's good faith effort to determine whether a good faith waiver will be granted. The bidder must demonstrate, on the DT1202 that they have aggressively solicited DBE participation in an attempt to meet the contract DBE goal and attaining the stated DBE goal is not feasible.

b. The department, in conjunction with industry stakeholders, has developed the following guidance for contractor good faith effort. The guidance and the attached appendices provide a framework for the actions required by all parties in the processing and evaluation of bidder's total efforts to achieve the project specific DBE goal prior to the bid letting date.

c. Prime Contractors should:
   i. Document all efforts and decisions made toward achieving the DBE goal on the contract. The bidder should use the Civil Rights & Compliance System [CRCS] and related WisDOT-approved DBE outreach tools, including the Bid Express Small Business Network, to foster DBE participation on all applicable contracts.

   ii. Request quotes by identifying potential items to subcontract and solicit. Prime contractors are strongly encouraged to include in their initial contacts a single page including a detailed list of items for which they are accepting quotes, by project, within a letting. *See attached sample entitled "Sample Contractor Solicitation Letter" in Appendix A*. Prime contractors should also indicate a willingness to accept quotes in areas they are planning to perform themselves, ***as required by federal rules***. In some cases, it might be appropriate to use DBE's to do work in a prime contractor's area of specialization.

      (1) Solicit quotes through all reasonable and available means from certified DBE firms who match 'possible items to subcontract' and send copies to DBESS office, highlighting areas in which you are seeking quotes. Email is acceptable.

      (2) SBN is the preferred outreach tool. https://www.bidx.com/wi/main. Other acceptable means include postal mail, email, fax, phone call.

         a. Primes must ask DBE firms for a response in their solicitations. See *Sample Contractors Solicitation Letter* in Appendix. This letter can be included as an attachment to the SBN sub-quote request.

         b. Solicit quotes at least 10 calendar days prior to the letting date {ideally two Fridays before the letting} to allow DBE firms sufficient time to respond. Prime contractors should contact DBE firms early, asking them if they need help in putting together a quote, or helping to arrange for equipment needs, or solve other problems.

      (3) Second solicitation should take place within 5 days
         a. An email solicitation is highly recommended for this second solicitation

      (4) Upon request, provide interested DBE firms with adequate information about plans, specifications and the requirements of the contract by letter, information session, email, phone call and/or referral.

      (5) When potential exists, advise interested DBE firms on how to obtain bonding, line of credit or insurance as may be requested.

      (6) Document DBE firm's interest in quoting by taking appropriate steps to follow up initial solicitation with:
         a. Email to all prospective DBE firms in relevant work areas
         b. Phone call log to DBE firms who express interest via written response or call.
         c. Fax/letter confirmation
         d. Copy of the DBE quotes
         e. Signed copy of Bid Express SBN Record of Subcontractor Outreach Effort.

d. Evaluate DBE quotes as documentation is critical if the prime does not utilize the DBE firm's quote for any reason.
   i. Evaluate DBE firm's capability to perform 'possible items to subcontract' using legitimate reasons, including but not limited to, ***a discussion with the DBE firm*** regarding its

capabilities prior to the bid letting. If lack of capacity is your reason for not utilizing the DBE quote, you are required to contact the DBE directly regarding their ability to perform the work indicated in the UCP directory as their work area [NAICS code]; only the work area and/or NAICS code listed in the UCP directory will be counted for DBE credit. Documentation of the conversation is required.

ii. In striving to meet a DBE conscious contract goal, prime contractors are expected to use DBE quotes that are responsive and reasonable. This includes DBE quotes that are not the low quote.

iii. **Special Circumstance:** Evaluation of DBE quotes with tied bid items. "Tied quotes are the condition in which a subcontractor submits quotes including multiple areas of expertise across multiple work areas noting that the items and price are tied. Typically this type of quoting represents a cost saving to the prime but is not clearly stated as a discount; tied quotes are usually presented as 'all or none' quote to the prime." When non-DBE subcontractors submit tied bid items in their quotes to the prime, the DBE firms' quote may seem not competitive. In such a case, the following steps are taken in comparing the relevant quotes. These are qualitative examples.

(1) Compare bid items common to both quotes, noting the reasonableness in the price comparison.

(2) Review quotes from other firms for the bid items not quoted by the DBE firm to see if combining both can provide the same competitive advantage that the tied bid items offered.

e. After notification of contract award, submit **'Commitment to Subcontract'** form within the time period specified in the contract.

i. Provide the following information along with department form DT1202:

(1) The names, addresses, e-mail addresses, telephone numbers of DBE's contacted. The dates of both initial and follow-up contact. A printed copy of SBN solicitation is acceptable.

(2) A description of information provided to the DBE's regarding the plans, specifications, and estimated quantities for portions of the work to be performed by that DBE.

(3) Photocopies or electronic copies of all written solicitations to DBE's.

(4) Documentation of each quote received from a DBE and, if rejected, the reason for that rejection.

(5) Bidder attendance at any pre-solicitation or pre-bid meetings the department held to inform DBE's of participation opportunities available on the project.

f. The department's DBE Support Services Office is available by phone, email or in writing to request assistance in meeting the DBE goal:

DBE Support Services Office
6150 Fond du Lac Ave.
Milwaukee, WI 53218
Phone: 414-438-4583 / 608-266-6961
Fax: 414-438-5392
E-mail: DOTDBESupportServices@dot.wi.gov

6. Bidder's Appeal Process

a. A bidder can appeal the department's decision to deny the bidder's good faith waiver request. The bidder must provide written documentation refuting the specific reasons for rejection as stated in the department's rejection notice. The bidder may meet in person with the department if so

requested. Failure to appeal within 7 calendar days after receiving the department's written notice of rejection of a good faith waiver request under constitutes a forfeiture of the bidder's right of appeal. If the bidder does not appeal, the department may declare the bid ineligible for execution.

b. The department will appoint a representative, who did not participate in the original determination, to assess the bidder's appeal. The department will issue a written decision within 7 calendar days after the bidder presents all written and oral testimony. In that written decision, the department will explain the basis for finding that the bidder did or did not meet the contract DBE goal or make an adequate good faith effort to meet the contract DBE goal. The department's decision is final. If the department finds that the bidder did not meet the contract DBE goal or did not make adequate efforts to meet the DBE goal, the department may declare the bid ineligible for execution.

7. Department's Criteria for DBE Participation

Department's DBE List

a. The department maintains a DBE list on the department's website at

http://app.mylcm.com/wisdot/Reports/WisDotUCPDirectory.aspx

b. The DBE office is also available to assist at 414-438-4583 or 608-266-6961.

8. Counting DBE Participation

Assessing DBE Work

a. The department will only count the DBE usage towards the contract DBE goal if the DBE firm is certified as a DBE by one of the unified certification program agencies. If a firm becomes DBE certified before entering into a subcontract, the department may consider that DBE usage towards the contract goal. The department only counts the value of the work a DBE actually performs towards the DBE goal. The department assesses the DBE work as follows:

b. The department counts work performed by the DBE's own resources. The department includes the cost of materials and supplies the DBE obtains for the work. The department also includes the cost of equipment the DBE leases for the work. The department will not include the cost of materials, supplies, or equipment the DBE purchases or leases from the prime contractor or its affiliate, except the department will count non-project specific leases the DBE has in place before the work is advertised.

c. The department counts fees and commissions the DBE charges for providing a bona fide professional, technical, consultant, or managerial services. The department also counts fees and commissions the DBE charges for providing bonds or insurance. The department will only count costs the engineer deems reasonable based on experience or prevailing market rates.

d. If a DBE subcontracts work, the department counts the value of the subcontracted work only if the DBE's subcontractor is also a DBE.

e. The contractor shall maintain records and may be required to furnish periodic reports documenting its performance under this item.

f. It is the prime contractor’s responsibility to determine the DBE's ability to perform the work with the use of the UCP directory.

9. Commercially Useful Function

a. The department counts expenditures of a DBE toward the DBE goal only if the DBE is performing a commercially useful function on that contract.

b. A DBE is performing a commercially useful function if the following conditions are met:

c. For contract work, the DBE is responsible for executing a distinct portion of the contract work and it is carrying out its responsibilities by actually performing, managing, and supervising that work.

d. For materials and supplies, the DBE is responsible for negotiating price, determining quality and quantity, ordering, and paying for those materials and supplies.

10. Trucking

All bidders are expected to adhere to the department's current trucking policy posted on the HCCI website at

http://www.dot.wisconsin.gov/business/engrserv/docs/dbe-trucking-notice.pdf

11. Manufacturers and Suppliers

The department counts material and supplies a DBE provides under the contract. The department will give full credit toward the DBE goal if the DBE is a manufacturer of those materials or supplies. The department will give 60 percent credit toward the DBE goal if the DBE is merely a supplier of those materials or supplies. It is the bidder's responsibility to find out if the DBE is considered a supplier or a manufacturer before listing them on Commitment to Subcontract to DBE form DT1506.

12. DBE Prime

If the prime contractor is a DBE, the department will only count the work the contractor performs with its own forces, the work DBE subcontractors perform, and the work DBE suppliers or manufacturers perform.

13. Joint Venture

If a DBE performs as a participant in a joint venture, the department will only count that portion of the total dollar value of the contract equal to that portion of the work that the DBE performs with its own forces.

14. Mentor Protégé

a. If a DBE performs as a participant in a mentor protégé agreement, the department will credit the portion of the work performed by the DBE protégé firm

b. On every other project that the mentor protégé team identifies itself on.

c. For no more than one half of the total contracted DBE goal on any WisDOT project.

15. DBE Replacement

In the event a Prime Contractor needs to replace a DBE firm originally listed on the approved DBE Commitment Form DT1506, the Prime Contractor must comply with the department's DBE Replacement Policy located on the DBE page on the following web site:
http://www.dot.wi.gov/business/dbe/docs/policyreplacingdbe.pdf

16. Changes to the approved DBE Commitment Form DT1506

If there are any changes to the approved Commitment to Subcontract to DBE Form DT1506, the prime contractor must submit a revised DBE Commitment Form DT1506 and relevant attachment A(s) to the DBE Programs Office within 5 business days.

17. Contract Modifications

When additional opportunity is available by contract modifications, the Prime Contractor shall utilize DBE Subcontractors, that were committed to equal work items, in the original contract.

18. Payment

Costs for conforming to this Additional Special Provision (ASP) and any associated DBE requirements are incidental to the contract.

APPENDIX A
Sample Contractor Solicitation Letter Page 1
This sample is provided as a guide not a requirement

GFW SAMPLE MEMORANDUM

TO: DBE FIRMS

FROM: POTENTIAL PRIME CONTRACTOR OR MAJOR SUBCONTRACTOR

SUBJECT: REQUEST FOR DBE QUOTES

LET DATE & TIME

DATE: MONTH DAY YEAR

CC: DBE OFFICE ENGINEER

Our company is considering bidding on the projects indicated on the next page, as a prime and/or a subcontractor for the Wisconsin Department of Transportation Month- date -year Letting. Page 2 lists the projects and work items that we may subcontract for this letting. We are interested in obtaining subcontractor quotes for these projects and work categories. Also note that we are willing to accept quotes in areas we may be planning to perform ourselves as required by federal rules.

Please review page 2, respond whether you plan to quote, highlight the projects and work items you are interested in performing and return it via fax or email within 3 days. Plans, specifications and addenda are available through WisDOT at the DBE Support Services office or at the Highway Construction Contract Information (HCCI) site at http://roadwaystandards.dot.wi.gov/hcci/

Your quote should include all of the costs required to complete the items you propose to perform including labor, equipment, material, and related bonding or insurance. The quote should note items that you are DBE certified to perform, tied items, and any special terms. Page 2, with the indicated projects and items you plan to quote, should be used as a cover sheet for your quote.

Please make every effort to have your quotes into our office by time deadline the prior to the letting date. ***Make sure the correct letting date, project ID and proposal number, unit price and extension are included in your quote.*** We prefer quotes be sent via SBN but prime's alternative's are acceptable. Our office hours are include hours and days. Please call our office as soon as possible prior to the letting if you need information/clarification to prepare your quote at contact number.

If you wish to discuss or evaluate your quote in more detail, contact us after the contract is awarded. Status of the contract can be checked at WisDOT's HCCI site at http://roadwaystandards.dot.wi.gov/hcci/

All questions should be directed to:

Project Manager, John Doe,
Phone: (000) 123-4567
Email: Joe@joetheplumber.com
Fax: (000) 123- 4657

Sample Contractor Solicitation Letter Page 2

This sample is provided as a guide not a requirement

REQUEST FOR QUOTATION

Prime's Name: _____

Letting Date: _____

Project ID: _____

Please check all that apply

- ¨ Yes, we will be quoting on the projects and items listed below
- ¨ No, we are not interested in quoting on the letting or its items referenced below
- ¨ Please take our name off your monthly DBE contact list
- ¨ We have questions about quoting this letting. Please have some one contact me at this number

Prime Contractor 's Contact Person		DBE Contractor Contact Person	
Phone:		Phone	
Fax:		Fax	
Email:		Email	

Please circle the jobs and items you will be quoting below

Proposal No.	1	2	3	4	5	6	7
County							

WORK DESCRIPTION:

Clear and Grub	X		X	X		X	X
Dump Truck Hauling	X		X	X		X	X
Curb & Gutter/Sidewalk, Etc.	X		X	X		X	X
Erosion Control Items	X		X	X		X	X
Signs and Posts/Markers	X		X	X		X	X
Traffic Control		X	X	X		X	X
Electrical Work/Traffic Signals		X	X	X		X	
Pavement Marking		X	X	X	X	X	X
Sawing Pavement		X	X	X	X	X	X
QMP, Base	X	X		X	X	X	X
Pipe Underdrain	X			X			
Beam Guard				X	X	X	X
Concrete Staining							X
Trees/Shrubs	X						X

Again please make every effort to have your quotes into our office by time deadline prior to the letting date.

We prefer quotes be sent via SBN but prime's preferred alternative's are acceptable.

If there are further questions please direct them to the prime contractor's contact person at phone number.

APPENDIX B
BEST PRACTICES FOR PRIME CONTRACTOR & DBE SUBCONTRACTOR GOOD FAITH EFFORT

This list is not a set of requirements; it is a list of potential strategies

Primes

- Prime contractor open houses inviting DBE firms to see the bid "war room" or providing technical assistance
- Participate in speed networking and mosaic exercises as arranged by DBE office
- Host information sessions not directly associated with a bid letting;
- Participate in a formal mentor protégé or joint venture with a DBE firm
- Participate in WisDOT advisory committees i.e. TRANSAC, or Mega Project committee meetings
- Facilitate a small group DBE 'training session' Clarifying how your firm prepares for bid letting, evaluates subcontractors, preferred qualifications and communication methods
- Encourage subcontractors to solicit and highlight DBE participation in their quotes to you
- Quality of communication, not quantity creates the best results. Contractors should do as thorough a job as possible in communicating with DBE firms before the bid and provide any assistance requested to assure best possible bid.

DBE

- DBE firms should contact primes as soon as possible with questions regarding their quotes or bid; seven days prior is optimal.
- Continually check for contract addendums on the HCCI website through the Thursday prior to letting to stay abreast of changes.
- Review the status of contracts on the HCCI website reviewing the 'apparent low bidder' list, and bid tabs at a minimum.
- Prepare a portfolio or list of related projects and prime and supplier references; be sure to note transportation-related projects of similar size and scope, firm expertise and staffing.
- Participate in DBE office assessment programs
- Participate on advisory and mega-project committees
- Sign up to receive the DBE Contracting Update
- Consider membership in relevant industry or contractor organizations
- Active participation is a must. Quote as many projects as you can reasonably work on; quoting the primes and bidding as a prime with the department are the only ways to get work.

APPENDIX C
Types of Efforts considered in determining GFE
This list represents concepts being assessed; analysis requires additional steps

1. Whether the contractor attended any pre-solicitation or pre-bid meetings that were scheduled by WisDOT to inform DBEs of contracting and subcontracting opportunities;
2. Whether the contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract was being solicited, in sufficient time to allow the DBEs to participate effectively;
3. Whether the contractor followed up initial solicitations of interest by contacting DBEs to determine if the DBEs were interested; returned the phone calls of interested DBE firms.
4. Whether the contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goal;
5. Whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;
6. Whether the contractor negotiated in good faith with interested DBEs, not rejected DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;
7. Whether the contractor made efforts to assist interested DBEs in being more competitive.
8. Whether the contractor effectively used the services of available minority community organizations: minority contractors groups, local, state, and Federal minority business assistance offices, and other organizations that provide assistance to small businesses and DBE firms.
9. Whether Prime used CRCS to identify DBE who specialize in relevant work areas.
10. Whether the contractor used available resources including contacting the DBE office, using WisDOT's website
11. Whether the contractor returned calls of firms expressing interest in a timely manner.

APPENDIX D
Good Faith Effort Evaluation Guidance
Excerpt from Appendix A of 49 CFR Part 26

APPENDIX A TO PART 26 -- GUIDANCE CONCERNING GOOD FAITH EFFORTS

I. When, as a recipient, you establish a contract goal on a DOT assisted contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.

II. In any situation in which you have established a contract goal, part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.

III. The Department also strongly cautions you against requiring that a bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring bona fide good faith efforts.

IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.

C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

D. (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.

(2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.

E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non solicitation of bids in the contractor's efforts to meet the project goal.

F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the contract. For example, when the apparent successful bidder fails to meet the contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.

Appendix E
Small Business Network [SBN] Overview

The Small Business Network is a part of the Bid Express® service that was created to ensure that prime bidders have a centralized online location to find subs - including small and disadvantaged business enterprises (DBEs). It is available for prime bidders to use as part of their Basic Service subscription. Within the Small Business Network, Prime Contractors can:

1. Easily select proposals, work types and items:
    a. After adding applicable work types, select items that you wish to quote. Enter the sub-quote quantities and add comments, if desired. Adding or removing items and work types can be done quickly. If needed, you can save the sub-quote for completion at a later time.
2. Create sub-quotes for the subcontracting community:
    a. Create sub-quotes with ease using the intuitive sub-quote creator. In seven short steps, you can rapidly create a custom sub-quote directed to all subcontractors that bid on the applicable work types. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
    b. Create a sub-quote to send to subcontractors or suppliers that lists the items in a proposal that you want quoted
    c. Create an unlimited number of sub-quotes for items you want quoted, and optionally mark them as a DBE-preferred request
    d. Add attachments to sub-quotes
3. View sub-quote requests & responses:
    a. After logging into the Bid Express service, you can quickly review all of your sub-quote requests and all unsolicited sub-quote requests from subcontractors. To simplify the Small Business Network home screen, sub-quote requests can be hidden with one click if they are not applicable.
    b. View or receive unsolicited sub-quotes that subcontractors have posted, complete with terms, conditions and pricing
4. View Record of Subcontractor Outreach Effort:
    a. For each sub-quote produced, a *Record of Subcontractor Outreach Effort* is generated that shows the response statistics for a particular sub-quote. If accepted by the letting agency, this report may serve as proof of a "Good Faith" effort in reaching out to the DBE community.
    b. Easily locate pre-qualified and certified small and disadvantaged businesses
    c. Advertise to small and disadvantaged businesses more efficiently and cost effectively
    d. Document your interactions with subs/DBEs by producing an Outreach Report (may be accepted as proof of DBE outreach at the discretion of each agency)

The Small Business Network is a part of the Bid Express® service that was created to ensure that small businesses have a centralized area to access information about upcoming projects. It can help small businesses learn more about opportunities, compete more effectively, network with other contractors and subcontractors, and win more jobs.

1. View and reply to sub-quote requests from primes:
    a. After logging into the Bid Express service, you can quickly review all incoming sub-quote requests and all unsolicited sub-quotes created by your company. Receive notifications by selected work type. To simplify on the Small Business Network home screen, sub-quote requests can be filtered by work types relevant to your interests, or hidden with one click if they are not applicable.
2. Select items when responding to sub-quote requests from primes:
    a. You have the freedom to choose and price any number of items when responding to a sub-quote request. Quantities can be modified, and per-item comments are also available.
    b. View requests for sub-quotes for work that primes have posted for projects they are bidding, add your pricing, terms, and conditions, and submit completed sub-quotes to the requesting primes
    c. Add attachments to a sub-quote
3. Create and send unsolicited sub-quotes to specific contractors:
    a. Create unsolicited sub-quotes with ease using the intuitive sub-quote creator. In eight short steps, you can rapidly create a custom sub-quote directed at any number of specific vendors of your choosing. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
4. Easily select and price items for unsolicited sub-quotes:
    a. After adding applicable work types, select items that you wish to quote. The extended price calculates automatically, cutting out costly calculation errors. Comments can be provided on an per-item basis as well.
    b. Create an unsolicited sub-quote that lists the items from a proposal that you want to quote, include pricing, terms and conditions, and send it to selected prime/plan holder
    c. Add attachments to a sub-quote
    d. Add unsolicited work items to sub-quotes that you are responding to
5. Easy Access to Valuable Information
    a. Receive a confirmation that your sub-quote was opened by a prime
    b. View Bid Tab Analysis data from past bids, including the high, average and low prices of items.
    c. View important notices and publications from DOT targeted to small and disadvantaged businesses
6. Accessing Small Business Network for WisDOT contracting opportunities
    a. If you are a contractor not yet subscribing to the Bid Express service, go to www.bidx.com and select “Order Bid Express.” The Small Business Network is a part of the Bid Express Basic Service.
    b. DBE firms can request a Bid Express Small Business Network Account at no cost by calling 414-438-4588

ADDITIONAL SPECIAL PROVISION 4

Payment to First-Tier Subcontractors

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting "just cause" for withholding payment.

The prime contractor may also withhold routine retainage from payments due subcontractors.

Payment to Lower-Tier Subcontractors

Ensure that subcontracting agreements at all tiers provide prompt payment rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.

Release of Routine Retainage

After granting substantial completion the department may reduce the routine retainage withheld from the prime contractor to 75 percent of the original total amount retained.

When the Department sends the semi-final estimate the department may reduce the routine retainage withheld from the prime contractor to 10 percent of the original total amount retained.

Within 30 calendar days of receiving the semi-final estimate from the department, submit written certification that subcontractors at all tiers are paid in full for acceptably completed work and that no routine retainage is being withheld. The department will pay the prime contractor in full and reduce the routine retainage withheld from the prime contractor to zero when the department approves the final estimate.

This special provision does not limit the right of the department, prime contractor, or subcontractors at any tier to withhold payment for work not acceptably completed or work subject to an unresolved contract dispute.

ADDITIONAL SPECIAL PROVISIONS 5

Fuel Cost Adjustment

A Description

Fuel Cost Adjustments will be applied to partial and final payments for work items categorized in Section B as a payment to the contractor or a credit to the department. ASP-5 shall not apply to any force account work.

B Categories of Work Items

The following items and Fuel Usage Factors shall be used to determine Fuel Cost Adjustments:

(1) Earthwork.		Unit	Gal. Fuel Per Unit
205.0100	Excavation Common	CY	0.23
205.0200	Excavation Rock	CY	0.39
205.0400	Excavation Marsh	CY	0.29
208.0100	Borrow	CY	0.23
208.1100	Select Borrow	CY	0.23
209.0100	Backfill Granular	CY	0.23
350.0102	Subbase	CY	0.28
350.0104	Subbase	Ton	0.14
350.0115	Subbase 6-Inch	SY	0.05
350.0120	Subbase 7-Inch	SY	0.05
350.0125	Subbase 8-Inch	SY	0.06
350.0130	Subbase 9-Inch	SY	0.07
350.0135	Subbase 10-Inch	SY	0.08
350.0140	Subbase 11-Inch	SY	0.09
350.0145	Subbase 12-Inch	SY	0.09
SPV.0035.001	Drainage Blanket	CY	0.23
SPV.0035.002	Roadway Embankment	CY	0.23
SPV.0035.003	Excavation Of Phragmites Soil	CY	0.23
SPV.0035.004	Granular Material For ES Fabric	CY	0.23

C Fuel Index

A Current Fuel Index (CFI) in dollars per gallon will be established by the Department of Transportation for each month. The CFI will be the price of No. 2 fuel oil, as reported in U.S. Oil Week, using the first issue dated that month. The CFI will be the average of prices quoted for Green Bay, Madison, Milwaukee and Minneapolis.

The base Fuel Index (BFI) for this contract is $2.90 per gallon.

D Computing the Fuel Cost Adjustment

The engineer will compute the ratio CFI/BFI each month. If the ratio falls between 0.85 and 1.15, inclusive, no fuel adjustment will be made for that month. If the ratio is less than 0.85 a credit to the department will be computed. If the ratio is greater than 1.15 additional payment to the contractor will be computed. Credit or additional payment will be computed as follows:

(1) The engineer will estimate the quantity of work done in that month under each of the contract items categorized in Section B.

(2) The engineer will compute the gallons of fuel used in that month for each of the contract items categorized in Section B by applying the unit fuel usage factors shown in Section B.

(3) The engineer will summarize the total gallons (Q) of fuel used in that month for the items categorized in Section B.

(4) The engineer will determine the Fuel Cost Adjustment credit or payment from the following formula:

$$FA = \left(\frac{CFI}{BFI} - 1 \right) x\ Q\ x\ BFI$$

(plus is payment to contractor; minus is credit to the department)

Where	FA	=	Fuel Cost Adjustment (plus or minus)
	CFI	=	Current Fuel Index
	BFI	=	Base Fuel Index
	Q	=	Monthly total gallons of fuel

E Payment

A Fuel Cost Adjustment credit to the department will be deducted as a dollar amount each month from any sums due to the contractor. A Fuel Cost Adjustment payment to the contractor will be made as a dollar amount each month.

Upon completion of the work under the contract, any difference between the estimated quantities and the final quantities will be determined. An average CFI, calculated by averaging the CFI for all months that fuel cost adjustment was applied, will be applied to the quantity differences. The average CFI shall be applied in accordance with the procedure set forth in Section D.

ADDITIONAL SPECIAL PROVISION 6
ASP 6 - Modifications to the standard specifications

Make the following revisions to the standard specifications:

450.3.2.1 General

Replace the entire text with the following effective with the January 2015 letting:

(1) Do not place asphaltic mixture when the air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is less than 36 F for upper layers or 32 F for lower layers unless the engineer allows in writing. The contractor should place HMA pavement for projects on or north of STH 29 between May 1 and October 15 inclusive and for projects south of STH 29 between April 15 and November 1 inclusive. Notify the engineer at least one business day before paving.

(2) Unless the contract specifies otherwise, conform to the following:

- Keep the road open to all traffic during construction.
- Prepare the existing foundation for treatment as specified in 211.
- Incorporate loose roadbed aggregate as a part of preparing the foundation, in shoulder construction, or dispose of as the engineer approves.

(3) Place asphaltic mixture only on a prepared, firm, and compacted base, foundation layer, or existing pavement substantially surface-dry and free of loose and foreign material. Do not place over frozen subgrade or base, or where the roadbed is unstable.

450.5 Payment

Replace the entire text with the following effective with the January 2015 letting:

(1) All costs of furnishing, maintaining, and operating the truck scale or other weighing equipment and furnishing the weigh tickets are incidental to the contract.

(2) Nonconforming material allowed to remain in place is subject to price adjustment under 105.3.2.

(3) Full-depth sawing to remove integrally placed safety edge where not required is incidental to the contract.

(4) The contractor is responsible for pavement performance. If because of an excusable compensable delay under 108.10.3, the engineer directs the contractor to pave when the temperature is less than 36 F for the upper layer or less than 32 F for lower layers, the department:

- Will relieve the contractor of responsibility for damage and defects the engineer attributes to cold weather paving.
- Will not assess disincentives for density or ride.

455.3.2.1 General

Replace paragraphs one and two with the following effective with the January 2015 letting:

(1) Apply tack coat only when the air temperature is 32 F or more unless the engineer approves otherwise in writing. Before applying tack coat ensure that the surface is dry and reasonably free of loose dirt, dust, or other foreign matter. Do not apply if weather or surface conditions are unfavorable or before impending rains.

(2) Use tack material of the type and grade the contract specifies. The contractor may, with the engineer's approval, dilute tack material as allowed under 455.2.4. Provide calculations using the asphalt content as-received from the supplier and subsequent contractor dilutions to show that as-placed material has 50 percent or more residual asphalt content. Apply at 0.050 to 0.070 gallons per square yard, after dilution, unless the contract designates otherwise. The engineer may adjust the application rate based on surface conditions. Limit application each day to the area the contractor expects to pave during that day.

460.2.2.3 Aggregate Gradation Master Range

Replace paragraph one with the following effective with the December 2014 letting:

(1) Ensure that the aggregate blend, including recycled material and mineral filler, conforms to the gradation requirements in table 460-1. The values listed are design limits; production values may exceed those limits.

TABLE 460-1 AGGREGATE GRADATION MASTER RANGE AND VMA REQUIREMENTS

SIEVE	PERCENTS PASSING DESIGNATED SIEVES						
	NOMINAL SIZE						
	37.5 mm	25.0 mm	19.0 mm	12.5 mm	9.5 mm	SMA 12.5 mm	SMA 9.5 mm
50.0-mm	100						
37.5-mm	90 –100	100					
25.0-mm	90 max	90 -100	100				
19.0-mm	___	90 max	90 -100	100		100	
12.5-mm	___	___	90 max	90 -100	100	90 - 97	100
9.5-mm	___	___	___	90 max	90 -100	58 - 72	90 - 100
4.75-mm	___	___	___	___	90 max	25 - 35	35 - 45
2.36-mm	15 – 41	19 - 45	23 - 49	28 - 58	20 - 65	15 - 25	18 - 28
75-µm	0 – 6.0	1.0 - 7.0	2.0 - 8.0	2.0 - 10.0	2.0 - 10.0	8.0 - 12.0	10.0 - 14.0
% MINIMUM VMA	11.0	12.0	13.0	14.0[1]	15.0[2]	16.0	17.0

[1] 14.5 for E-0.3 and E-3 mixes.

[2] 15.5 for E-0.3 and E-3 mixes.

460.3.4 Cold Weather Paving

Add a new subsection as follows effective with the January 2015 letting:

460.3.4 Cold Weather Paving

460.3.4.1 Cold Weather Paving Plan

(1) Submit a written cold weather paving plan to the engineer at the preconstruction meeting. In that plan outline material, operational, and equipment changes for paving when the air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is less than 40 F. Include the following:

- Use a department-accepted HMA mix design that incorporates a warm mix additive from the department's approved products list. Do not use a foaming process.
- Use additional rollers.

(2) Engineer written acceptance is required for the cold weather paving plan. Engineer acceptance of the plan does not relieve the contractor of responsibility for pavement performance except as specified in 450.5(4).

460.3.4.2 Cold Weather Paving Operations

(1) Do not place asphaltic mixture when the air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is less than 40 F unless a valid engineer-accepted cold weather paving plan is in effect.

(2) If the national weather service forecast for the construction area predicts ambient air temperature less than 40 F at the projected time of paving within the next 24 hours, confirm or submit revisions to a previously engineer-accepted cold weather paving plan for engineer validation. Upon validation of the plan, the engineer will allow paving for the next day. Once in effect, pave conforming to the engineer-accepted cold weather paving plan for the balance of that work day or shift regardless of the temperature at the time of paving.

460.4 Measurement

Add paragraph two as follows effective with the January 2015 letting:

(2) The department will measure HMA Cold Weather Paving by the ton of HMA mixture for pavement placed conforming to an engineer-accepted cold weather paving plan.

460.5.1 General

Revise paragraph one as follows effective with the January 2015 letting:

(1) The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
460.1100	HMA Pavement Type E-0.3	TON
460.1101	HMA Pavement Type E-1	TON
460.1103	HMA Pavement Type E-3	TON
460.1110	HMA Pavement Type E-10	TON
460.1130	HMA Pavement Type E-30	TON
460.1132	HMA Pavement Type E-30X	TON
460.1700	HMA Pavement Type SMA	TON
460.2000	Incentive Density HMA Pavement	DOL
460.4000	HMA Cold Weather Paving	TON

460.5.2.2 Disincentive for HMA Pavement Density

Revise paragraph two as follows effective with the January 2015 letting:

(2) The department will not assess density disincentives for pavement placed in cold weather because of a department-caused delay as specified in 450.5(4).

460.5.2.4 Cold Weather Paving

Add a new subsection as follows effective with the January 2015 letting:

460.5.2.4 Cold Weather Paving

(1) Payment for HMA Cold Weather Paving is full compensation for additional materials and equipment specified for cold weather paving under 460.3.4 including costs for preparing, administering, and following the contractor's cold weather paving plan.

(2) If HMA pavement is placed under 460.3.4 and the HMA Cold Weather Paving bid item is not in the contract, the department will pay for the additional costs specified in 460.5.2.4(1) as extra work. The department will pay separately for HMA pavement under the appropriate HMA Pavement bid items.

465.2 Materials

Replace paragraph two with the following effective with the December 2014 letting:

(2) Under the other section 465 bid items, the contractor need not submit a mix design. Furnish aggregates mixed with a type AC asphaltic material, except under the Asphaltic Curb bid item furnish PG58-28 asphaltic material. Use coarse and fine mineral aggregates uniformly coated and mixed with the asphaltic material in an engineer-approved mixing plant. The contractor may include reclaimed asphaltic pavement materials in the mixture.

Bid Items Added

Add the following new bid item effective with the January 2015 letting:

ITEM NUMBER	DESCRIPTION	UNIT
460.4000	HMA Cold Weather Paving	TON

Errata

Make the following corrections to the standard specifications:

501.3.2.4.4 Water Reducer

Correct errata by deleting the reference to footnote 6 for grade D concrete.

(1) Add a water reducing admixture conforming to 501.2.3. Determine the specific type and rate of use based on the atmospheric conditions, the desired properties of the finished concrete and the manufacturer's recommended rate of use. The actual rate of use shall at least equal the manufacturer's recommended rate, and both the type and rate used require the engineer's approval before use.

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st Tier and DBE Payments During Construction

1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
5. Require all first tier relationships, DBE firms and all other tier relationships necessary to comply with the DBE payment requirement in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1), (2), (3) and (4).
6. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4) and (5), and shall be binding on all first tier subcontractor relationships and all contractors and subcontractors utilizing DBE firms on the project.

B. Costs for conforming to this special provision are incidental to the contract.

ASP-8 **January 8, 2009**

US 41Corridor
EEO/AA Requirements for Contractors and Subcontractors
(OFFICE OF FEDERAL CONTRACT COMPLIANCE PROGRAMS, US DEPARTMENT OF LABOR)

1. Prime Contractor(s) and subcontractors awarded a construction contract in excess of $10,000 at any tier for construction work under the contract **shall comply** with the requirements of **Executive Order 11246 as amended, Section 503 of The Rehabilitation Act of 1973 as amended and the Vietnam Era Veterans' Readjustment Assistance Act of 1974 as amended (38 U.S.C. 4212).**

2. The contractor shall provide written notification to the District Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Dept. of Labor/ESA, 310 West Wisconsin Avenue, Suite 1115, Milwaukee, WI 53202 - phone: (414) 297-3822, fax: (414) 297-4038, within 10 working days of the award of any construction contract (subcontract) in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. This notification shall include name, address and telephone number of the subcontractor, employer identification number (EIN), dollar amount of the contract, and the estimated starting and completion date. This notification provision applies to 2nd and 3rd tier subcontractors, etc. as well as the prime contractor.

3. The prime contractor and each subcontractor are required to complete a monthly Utilization Report. The report will include the total number of work hours broken out by construction trade and classification (supervisor, journey or apprentice), race and gender. The report will also include the number of employees within each trade and classification by race and gender. These reports will be entered into the Civil Rights Compliance System (CRCS) in accordance with WisDOT requirements. However, if USDOL is denied access to the CRCS, the contractor will be notified by USDOL. The contractor will then submit directly to USDOL at the address above, the Utilization Report and number of employees as described earlier in this paragraph.

4. The prime contractor and each subcontractor are to provide a list of employees who worked on this project by name, race, sex, trade, classification (foreman/supervisor, journey, apprentice, trainee), if the person was a TrANS grad, and date of hire into the prime or subcontractor's workforce. This will be sent to the U. S. Department of Labor, OFCCP when the last work hours are reported for the project by each contractor.

5. The **Prime Contractor** is required to **appoint an EEO/Affirmative Action (EEO/AA) Manager for the project.** Each **subcontractor is required to appoint an EEO/AA Project Coordinator.** The EEO/AA Manager shall have overall responsibility for the

monitoring of EEO/AA compliance by the prime contractor and by all subcontractors working on this project (for all construction work originated by the Prime Contractor).

6. The prime contractor shall establish a **Special Project Affirmative Action Oversight Committee (SPAAOC)** comprised of OFCCP, and other representatives from state/local Civil Rights Enforcement/Development Agencies, labor unions, community constituents representing minority and female groups and other government and non-government agencies as needed. The first meeting will be held as soon as possible prior to the start of the project. Thereafter, the SPAAOC shall meet periodically throughout the course of the contract to discuss EEO/AA issues.

7. A designated EEO representative of each contractor on the project must attend a technical assistance seminar sponsored by OFCCP to understand their obligations under Executive Order 11246 as amended, Section 503 of The Rehabilitation Act of 1973 as amended and the Vietnam Era Veterans' Readjustment Assistance Act of 1974 as amended (38 U.S.C. 4212). If the contractor's EEO representative has attended an OFCCP technical assistance seminar during the previous 12 calendar months, they will be exempt from this requirement.

8. The EEO/AA goals (good faith effort) for this contract are:

Nation wide:	6.9% for Females of total work hours by trade
Brown County:	1.3% for Minorities of total work hours by trade
Winnebago County:	0.9% for Minorities of total work hours by trade

ADDITIONAL SPECIAL PROVISION 9
Electronic Certified Payroll Submittal

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at: http://www.dot.wi.gov/business/civilrights/laborwages/index.htm

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: http://www.dot.wi.gov/business/civilrights/laborwages/docs/crc-payroll-manual.pdf

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SEPTEMBER 2002

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Employment Practices" and "Equal Opportunity Clause" set forth in the Required Contract Provisions, FHWA 1273.

2. The goals and timetables for minority and female participation expressed in percentage terms for the contractor's aggregate work force in each trade, on all construction work in the covered area, are as follows:

Goals for Minority Participation for Each Trade:

County	%	County	%	County	%
Adams	1.7	Iowa	1.7	Polk	2.2
Ashland	1.2	Iron	1.2	Portage	0.6
Barron	0.6	Jackson	0.6	Price	0.6
Bayfield	1.2	Jefferson	7.0	Racine	8.4
Brown	1.3	Juneau	0.6	Richland	1.7
Buffalo	0.6	Kenosha	3.0	Rock	3.1
Burnett	2.2	Kewaunee	1.0	Rusk	0.6
Calumet	0.9	La Crosse	0.9	St. Croix	2.9
Chippewa	0.5	Lafayette	0.5	Sauk	1.7
Clark	0.6	Langlade	0.6	Sawyer	0.6
Columbia	1.7	Lincoln	0.6	Shawano	1.0
Crawford	0.5	Manitowoc	1.0	Sheboygan	7.0
Dane	2.2	Marathon	0.6	Taylor	0.6
Dodge	7.0	Marinette	1.0	Trempealeau	0.6
Door	1.0	Marquette	1.7	Vernon	0.6
Douglas	1.0	Menominee	1.0	Vilas	0.6
Dunn	0.6	Milwaukee	8.0	Walworth	7.0
Eau Claire	0.5	Monroe	0.6	Washburn	0.6
Florence	1.0	Oconto	1.0	Washington	8.0
Fond du Lac	1.0	Oneida	0.6	Waukesha	8.0
Forest	1.0	Outagamie	0.9	Waupaca	1.0
Grant	0.5	Ozaukee	8.0	Waushara	1.0
Green	1.7	Pepin	0.6	Winnebago	0.9
Green Lake	1.0	Pierce	2.2	Wood	0.6

Goals for female participation for each trade: 6.9%

These goals are applicable to all the contractor's construction work, (whether or not it is federal or federally assisted), performed in the covered area. If the contractor performs construction work in the geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the Executive Order and the Regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the Regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of $10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

   As referred to in this section, the Director means:

   Director
   Office of Federal Contract Compliance Programs
   Ruess Federal Plaza
   310 W. Wisconsin Ave., Suite 1115
   Milwaukee, WI 53202

   The "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

4. As used in this notice, and in the contract resulting from solicitation, the "covered area" is the county(ies) in Wisconsin to which this proposal applies.

APRIL 2013

ADDITIONAL FEDERAL-AID PROVISIONS

NOTICE TO ALL BIDDERS

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidding collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

DECEMBER 2013

BUY AMERICA PROVISION

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials from smelting forward in the manufacturing process must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America. The exemption of this requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or $2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project. The contractor shall take actions and provide documentation conforming to CMM 2-28.5 to ensure compliance with this “Buy America” provision.

http://roadwaystandards.dot.wi.gov/standards/cmm/cm-02-28.pdf#cm2-28.5

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these "Buy America" provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

http://roadwaystandards.dot.wi.gov/standards/forms/ws4567.doc

Effective with September 2004 Letting

WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

I. Wage Rates, Hours of labor and payment of Wages
II. Payroll Requirements
III. Postings at the Site of the Work
IV. Affidavits
V. Wage Rate Redistribution
VI. Additional Classifications

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.

b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)

c. A copy of the contractor's Equal Employment Opportunity Policy.

d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.

2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.

3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.

4. The unlisted classification must be commonly employed in the area where the project is located.

5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.

6. The request should be made prior to the actual performance of the work by the unlisted classification.

7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.

8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
BROWN COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on May 1, 2014

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	30.77	16.92	47.69
Carpenter	30.48	15.90	46.38
Cement Finisher	32.65	17.32	49.97
Future Increase(s): Add $1.87 on 6/1/14; Add $1.87 on 6/1/15;Add $1.75 on 6/1/16. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	28.50	17.53	46.03
Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Fence Erector	16.00	3.33	19.33
Ironworker	28.72	23.47	52.19
Future Increase(s): Add $1.10/hr on 6/1/2014: Add $1.15/hr on 6/1/2015. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Line Constructor (Electrical)	38.25	16.38	54.63
Painter	21.87	11.37	33.24
Pavement Marking Operator	30.00	0.00	30.00
Piledriver	30.98	15.90	46.88
Roofer or Waterproofer	19.50	5.75	25.25
Teledata Technician or Installer	21.89	11.85	33.74
Tuckpointer, Caulker or Cleaner	30.77	5.56	36.33
Underwater Diver (Except on Great Lakes)	34.48	15.90	50.38
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	34.43	15.24	49.67

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	35.50	15.74	51.24
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	26.78	13.58	40.36
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.86	12.97	37.83
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	12.70	34.45
TRUCK DRIVERS			
Single Axle or Two Axle	34.22	19.90	54.12
Three or More Axle	24.52	17.77	42.29
Future Increase(s): Add $1.30/hr on 6/1/2014. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	29.27	20.40	49.67
Future Increase(s): Add $1.75/hr on 6/1/14); Add $1.25/hr on 6/1/15); Add $1.30/hr on 6/1/16); Add $1.25/hr on 6/ 1/ 17. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Pavement Marking Vehicle	23.31	17.13	40.44
Shadow or Pilot Vehicle	34.22	19.90	54.12
Truck Mechanic	23.31	17.13	40.44
LABORERS			
General Laborer	29.04	14.63	43.67
Future Increase(s): Add $1.60/hr on 6/1/2014. Premium Pay: Add $.10/hr for topman, air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.20/hr for blaster and powderman; Add $.25/hr for bottomman; Add $.35/hr for line and grade specialist; Add $.45/hr for pipelayer. DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	17.00	0.00	17.00
Landscaper	29.04	14.63	43.67
Future Increase(s): Add $1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	25.67	14.63	40.30
Future Increase(s): Add $1.60/hr on 6/1/2014. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	16.00	5.87	21.87
Railroad Track Laborer	23.46	13.88	37.34
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	36.72	20.40	57.12
Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	36.22	20.40	56.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfgr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, VIbratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane WIth a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle	35.72	20.40	56.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or WIthout Attachments); Telehandler; Tining or Curing Machine. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	35.72	20.40	56.12
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oiler; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack. Future Increase(s): Add $1.75/hr on 6/1/2014); Add $1.25/hr on 6/1/2015); Add $1.30/hr on 6/1/2016); Add $1.25/hr on 6/ 1/ 2017. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.50/hr night work premium. See DOT'S website for details about the applicability of this night work premium at: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.	35.17	20.40	55.57
Fiber Optic Cable Equipment.	26.69	16.65	43.34
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	38.80	20.17	58.97
Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	38.80	20.17	58.97
Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	34.50	20.04	54.54
Work Performed on the Great Lakes Including Deck Equipment Operator,	34.50	20.04	54.54

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks-Great Lakes ONLY.			

SUPERSEDES DECISION WI20120010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin
GENERAL DECISION NUMBER: WI150010
DATE: January 2, 2015
DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

LABORERS CLASSIFICATION:	Basic Hourly Rates	Fringe Benefits
Group 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence and Bridge Builder; Landscaper, Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, Utility Man); Batch Truck Dumper; or Cement Handler; Bituminous Worker; (Dumper, Ironer, Smoother, Tamper); Concrete Handler	$29.04	14.53
Group 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated);	29.14	14.53
Group 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off man	29.19	14.53
Group 4: Line and Grade Specialist	29.39	14.53
Group 5: Blaster and Powderman	29.24	14.53
Group 6: Flagperson; Traffic Control	25.67	14.53

CLASSES OF LABORER AND MECHANICS

Bricklayer	30.85	17.85
Carpenter	30.48	15.80
Millwright	32.11	15.80
Piledriverman	30.98	15.80
Ironworker	28.72	23.47
Cement Mason/Concrete Finisher	31.52	16.30
Electrician		See Page 3
Line Construction		
Lineman	40.81	32% + 5.00
Heavy Equipment Operator	38.77	32% + 5.00
Equipment Operator	32.65	32% + 5.00
Heavy Groundman Driver	26.78	14.11
Light Groundman Driver	24.86	13.45
Groundsman	22.45	32% + 5.00
Painters	22.82	11.52
Well Drilling:		
Well Driller	16.52	3.70

Truck Drivers:	Basic Hourly Rates	Fringe Benefits
1 & 2 Axles	25.18	18.31
Three or More Axles; Euclids, Dumptor & Articulated, Truck Mechanic	25.38	18.31

Notes: Welders receive rate prescribed for craft performing operation to which welding is incidental. Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR, 5.5(a)(1)(ii)). Includes Modification #0 dated January 2, 2015.

SUPERSEDES DECISION WI20120010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin
GENERAL DECISION NUMBER: WI150010
DATE: January 2, 2015
DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

POWER EQUIPMENT OPERATORS CLASSIFICATION:	Basic Hourly Rates	Fringe Benefits
Group 1: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of over 100 tons or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 176 feet or longer	$37.72	$20.93
Group 2: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of 100 tons or less or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 175 feet or less, and backhoes (excavators) having a manufacturer's rated capacity of 3 cu. yds. and over, caisson rigs, pile driver, dredge operator, dredge engineer.	$37.22	$20.93
Group 3: Mechanic or welder - heavy duty equipment, cranes with a lifting capacity of 25 tons or less, concrete breaker (manual or remote); vibrator/sonic concrete breaker; concrete laser screed; concrete slipform paver; concrete batch plant operator; concrete pavement spreader - heavy duty (rubber tired); concrete spreader and distributor, automatic subgrader (concrete); concrete grinder and planing machine; concrete slipform curb and gutter machine; slipform concrete placer; tube finisher; hydro blaster (10,000 psi and over); bridge paver; concrete conveyor system; concrete pump; stabilizing mixer (self propelled); shoulder widener; asphalt plant engineer; bituminous paver; bump cutter and grooving machine; milling machine; screed (bituminous paver); asphalt heater, planer and scarifier; backhoes (excavators) having a manufacturers rated capacity of under 3 cu. yds.; grader or motor patrol; tractor (scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); endloader hydraulic backhoe (tractor-type); trenching machine; skid rigs; tractor, side boom (heavy); drilling or boring machine (mechanical heavy); roller (over 5 tons); percussion or rotary drilling machine; air track; blaster; loading machine (conveyor); tugger; boatmen; winches and A-frames; post driver; material hoist operator.	$36.72	$20.93
Group 4: Greaser, roller steel (5 tons or less); roller (pneumatic tired) - self-propelled; tractor (mounted or towed compactors and light equipment); shouldering machine; self-propelled chip spreader; concrete spreader; finishing machine; mechanical float; curing machine; power subgrader; joint saw (multiple blade) belting machine; burlap machine; texturing machine; tractor, endloader (rubber tired) - light; jeep digger; fork lift; mulcher; launch operator; fireman; environmental burner.	$36.46	$20.93
Group 5: Air compressor; power pack; vibratory hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; concrete pro-portioning plants generators; mudjack operator; rock breaker; crusher or screening plant; screed (milling machine); automatic belt conveyor and surge bin; pug mill operator; oiler; pump (over 3 inches); drilling machine helper.	$36.17	$20.93
Group 6: Off – road material hauler with or without ejector	$30.27	$20.93

Premium Pay:
EPA Level "A" protection - $3.00 per hour
EPA Level "B" protection - $2.00 per hour
EPA Level "C" protection - $1.00 per hours

SUPERSEDES DECISION WI20120010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin
GENERAL DECISION NUMBER: WI150010
DATE: January 2, 2015
DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

LABORERS CLASSIFICATION:	Rates	Benefits
Electricians		
Area 1	$29.00	26.5%+ 9.15
Area 2:		
Electricians	30.59	18.43
Area 3:		
Electrical contracts under $130,000	26.24	16.85
Electrical contracts over $130,000	29.41	16.97
Area 4:	28.50	28.75% + 9.27
Area 5	28.96	24.85% + 9.70
Area 6	35.25	19.30
Area 8		
Electricians	31.10	24.95% + 10.41
Area 9:		
Electricians	34.82	19.575
Area 10	29.64	20.54
Area 11	32.54	24.07
Area 12	32.87	19.23
Area 13	33.93	22.67
Teledata System Installer		
Area 14		
Installer/Technician	22.50	12.72
Sound & Communications		
Area 15		
Installer	16.47	14.84
Technician	25.63	17.21

Area 1 - CALUMET (except township of New Holstein), GREEN LAKE (N. part, including Townships of Berlin, St. Marie and Seneca), MARQUETTE (N. part, including Townships of Crystal Lake, Neshkoro, Newton & Springfield), OUTAGAMIE, WAUPACA, WAUSHARA and WINNEBAGO COUNTIES.

Area 2 - ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Mayville, Colby, Unity, Sherman, Fremont, Lynn and Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST. CROIX, SAWYER, TAYLOR, TREMPEALEAU, VERNON and WASHBURN COUNTIES

Area 3 - FLORENCE (townships of Aurora, Commonwealth, Fern, Florence and Homestead), MARINETTE (Niagara township)

Area 4 - BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE (Wausauke and area south thereof), OCONTO, MENOMINEE (East of a line 6 miles West of the West boundary of Oconto County), SHAWANO (except area North of Townships of Aniwa and Hutchins) COUNTIES.

Area 5 - ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Area North of the town of Wausaukee), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Area North of the townships of Aniwa and Hutchins), VILAS AND WOOD COUNTIES

Area 6 - KENOSHA COUNTY

Area 8 - DODGE, (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington township), ROCK and WALWORTH COUNTIES

Area 9 - COLUMBIA, DANE, DODGE, (area west of Hwy. 26, except Chester & Emmet Townships), GREEN LAKE (except townships of Berlin, Seneca and St. Marie), IOWA, MARQUETTE (except townships of Neshkoka, Crystal Lake, Newton and Springfield), and SAUK COUNTIES

Area 10 - CALUMET (Township of New Holstein), DODGE (East of Hwy. 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES

Area 11 - DOUGLAS COUNTY

Area 12 - RACINE (except Burlington township) COUNTY

Area 13 - MILWAUKEE, OZAUKEE, WASHINGTON and WAUKESHA COUNTIES

Area 14 - Statewide.

Area 15 - DODGE (East of Hwy 26 including Chester Twp, excluding Emmet Twp), FOND DU LAC (Except Waupun), MILWAUKEE, OZAUKEE, MANITOWOC (Schleswig), WASHINGTON, AND WAUKESHA COUNTIES.

FEBRUARY 1999

NOTICE TO BIDDERS
WAGE RATE DECISION

The wage rate decision of the Secretary of Labor which has been incorporated in these advertised specifications is incomplete in that the classifications may be omitted from the Secretary of Labor's decision.

Since the bidder is responsible, independently, for ascertaining area practice with respect to the necessity, or lack of necessity, for the use of these classifications in the prosecution of the work contemplated by this project, no inference may be drawn from the omision of these classifications concerning prevailing area practices relative to their use. Further, this omission will not, per se, be construed as establishing any governmental liability for increased labor cost if it is subsequently determined that such classifications are required.

There may be omissions and/or errors in the federal wage rates. The bidder is responsible for evaluating and determining the correct applicable rate. The higher of state or federal rate will apply.

CONTRACT: 20150310023

PROJECT(S): 1133-10-75, 1133-10-77

FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 Contract Items					
0010	201.0110 Clearing	13,757.000 SY		.		.
0020	201.0120 Clearing	396.000 ID		.		.
0030	201.0210 Grubbing	13,757.000 SY		.		.
0040	201.0220 Grubbing	396.000 ID		.		.
0050	203.0100 Removing Small Pipe Culverts	19.000 EACH		.		.
0060	203.0200 Removing Old Structure (station) 001. 1194+00 NMC LT	LUMP	LUMP			.
0070	203.0200 Removing Old Structure (station) 002. 1185+25 NMC LT	LUMP	LUMP			.
0080	203.0200 Removing Old Structure (station) 003. 1173+00 SMC	LUMP	LUMP			.
0090	203.0200 Removing Old Structure (station) 004. 1185+40 SMC	LUMP	LUMP			.

CONTRACT: 20150310023
PROJECT(S): 1133-10-75, 1133-10-77
FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	203.0200 Removing Old Structure (station) 005. 1194+00 SMC	LUMP	LUMP			.
0110	203.0225.S Debris Containment (structure) 701. B-05-673	LUMP	LUMP			.
0120	203.0225.S Debris Containment (structure) 705. B-05-668	LUMP	LUMP			.
0130	203.0600.S Removing Old Structure Over Waterway With Minimal Debris (station) 700. 1212+00	LUMP	LUMP			.
0140	203.0600.S Removing Old Structure Over Waterway With Minimal Debris (station) 701. 1212+01	LUMP	LUMP			.
0150	204.0100 Removing Pavement **P**	94,360.000 SY	.			.
0160	204.0110 Removing Asphaltic Surface **P**	1,500.000 SY	.			.
0170	204.0115 Removing Asphaltic Surface Butt Joints **P**	43.000 SY	.			.
0180	204.0120 Removing Asphaltic Surface Milling **P**	2,520.000 SY	.			.
0190	204.0150 Removing Curb & Gutter **P**	1,420.000 LF	.			.

CONTRACT: 20150310023
PROJECT(S): 1133-10-75, 1133-10-77
FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0200	204.0155 Removing Concrete Sidewalk **P**	1,410.000 SY		.		.
0210	204.0165 Removing Guardrail **P**	3,455.000 LF		.		.
0220	204.0170 Removing Fence **P**	4,545.000 LF		.		.
0230	204.0175 Removing Concrete Slope Paving	540.000 SY		.		.
0240	204.0180 Removing Delineators and Markers	429.000 EACH		.		.
0250	204.0190 Removing Surface Drains	12.000 EACH		.		.
0260	204.0195 Removing Concrete Bases	18.000 EACH		.		.
0270	204.0210 Removing Manholes	1.000 EACH		.		.
0280	204.0220 Removing Inlets	41.000 EACH		.		.
0290	204.0245 Removing Storm Sewer (size) 001. 10-Inch **P**	584.000 LF		.		.

CONTRACT: 20150310023
PROJECT(S): 1133-10-75, 1133-10-77
FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0300	204.0245 Removing Storm Sewer (size) 002. 12-Inch **P**	389.000 LF		.		.
0310	204.0245 Removing Storm Sewer (size) 003. 18-Inch **P**	2,469.000 LF		.		.
0320	204.0245 Removing Storm Sewer (size) 004. 24-Inch **P**	445.000 LF		.		.
0330	204.0245 Removing Storm Sewer (size) 005. 36-Inch **P**	165.000 LF		.		.
0340	204.0250 Abandoning Manholes	8.000 EACH		.		.
0350	204.0270 Abandoning Culvert Pipes	3.000 EACH		.		.
0360	204.0280 Sealing Pipes	21.000 EACH		.		.
0370	204.0291.S Abandoning Sewer	472.000 CY		.		.
0380	204.9060.S Removing (Item Description) 203. Traffic Control Signs Fixed Message Left In Place	2.000 EACH		.		.
0390	204.9090.S Removing (Item Description) 001. Temporary Shoring Left In Place	3,957.000 LF		.		.

CONTRACT: 20150310023
PROJECT(S): 1133-10-75, 1133-10-77
FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0400	204.9090.S Removing (Item Description) 002. Concrete Barrier Temporary Precast Left In Place	39,275.000 LF		.		.
0410	204.9090.S Removing (Item Description) 003. Sanitary Sewer Pipe 12-Inch	40.000 LF		.		.
0420	205.0100 Excavation Common	196,250.000 CY		.		.
0430	205.0300 Excavation Stone Piles and Stone Fences	275.000 CY		.		.
0440	205.0400 Excavation Marsh	233,067.000 CY		.		.
0450	206.1000 Excavation for Structures Bridges (structure) 001. B-05-668	LUMP	LUMP			.
0460	206.1000 Excavation for Structures Bridges (structure) 002. B-05-672	LUMP	LUMP			.
0470	206.1000 Excavation for Structures Bridges (structure) 004. B-05-673	LUMP	LUMP			.
0480	206.1000 Excavation for Structures Bridges (structure) 007. B-05-676	LUMP	LUMP			.

CONTRACT: 20150310023
PROJECT(S): 1133-10-75, 1133-10-77
FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0490	206.1000 Excavation for Structures Bridges (structure) 008. B-05-682	LUMP	LUMP			.
0500	206.5000 Cofferdams (structure) 001. B-05-682	LUMP	LUMP			.
0510	208.1100 Select Borrow	29,000.000 CY		.		.
0520	209.0300.S Backfill Coarse Aggregate (size) 001. No 1	112.000 CY		.		.
0530	210.0100 Backfill Structure **P**	3,233.000 CY		.		.
0540	211.0100 Prepare Foundation for Asphaltic Paving (project) 001. 1133-10-75	LUMP	LUMP			.
0550	211.0100 Prepare Foundation for Asphaltic Paving (project) 002. 1133-10-77	LUMP	LUMP			.
0560	213.0100 Finishing Roadway (project) 002. 1133-10-75	1.000 EACH		.		.
0570	213.0100 Finishing Roadway (project) 003. 1133-10-77	1.000 EACH		.		.
0580	214.0100 Obliterating Old Road **P**	2.000 STA		.		.

CONTRACT: 20150310023
PROJECT(S): 1133-10-75, 1133-10-77
FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0590	305.0110 Base Aggregate Dense 3/4-Inch	8,500.000 TON		.		.
0600	305.0120 Base Aggregate Dense 1 1/4-Inch	94,190.000 TON		.		.
0610	311.0110 Breaker Run	105,632.000 TON		.		.
0620	315.0100 Asphaltic Base	28,502.000 TON		.		.
0630	320.0145 Concrete Base 8-Inch **P**	490.000 SY		.		.
0640	320.0150 Concrete Base 8 1/2-Inch **P**	861.000 SY		.		.
0650	325.0100 Pulverize and Relay **P**	13,000.000 SY		.		.
0660	405.0100 Coloring Concrete Red	410.000 CY		.		.
0670	415.0090 Concrete Pavement 9-Inch **P**	7,563.000 SY		.		.
0680	415.0100 Concrete Pavement 10-Inch **P**	15,470.000 SY		.		.
0690	415.0105 Concrete Pavement 10 1/2-Inch **P**	150,634.000 SY		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0700	415.0210 Concrete Pavement Gaps	16.000 EACH		.		.
0710	415.0410 Concrete Pavement Approach Slab **P**	2,206.000 SY		.		.
0720	415.1100 Concrete Pavement HES 10-Inch **P**	500.000 SY		.		.
0730	416.0180 Concrete Driveway 8-Inch	305.000 SY		.		.
0740	416.0190 Concrete Driveway 9-Inch	190.000 SY		.		.
0750	416.0280 Concrete Driveway HES 8-Inch	280.000 SY		.		.
0760	416.0290 Concrete Driveway HES 9-Inch	100.000 SY		.		.
0770	416.0512 Concrete Roundabout Truck Apron 12-Inch	1,220.000 SY		.		.
0780	416.0610 Drilled Tie Bars	580.000 EACH		.		.
0790	416.0620 Drilled Dowel Bars	276.000 EACH		.		.
0800	416.1010 Concrete Surface Drains **P**	19.100 CY		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0810	416.1110 Concrete Shoulder Rumble Strips	61,860.000 LF		.		.
0820	440.4410.S Incentive IRI Ride	30,000.000 DOL	1.00000		30000.00	
0830	455.0105 Asphaltic Material PG58-28	578.000 TON		.		.
0840	455.0605 Tack Coat	4,581.000 GAL		.		.
0850	460.1100 Hma Pavement Type E-0.3	958.000 TON		.		.
0860	460.1101 Hma Pavement Type E-1	6,307.000 TON		.		.
0870	460.1103 Hma Pavement Type E-3	1,110.000 TON		.		.
0880	460.1130 Hma Pavement Type E-30	484.000 TON		.		.
0890	460.2000 Incentive Density HMA Pavement	8,900.000 DOL	1.00000		8900.00	
0900	460.4000 HMA Cold Weather Paving	1,902.000 TON		.		.
0910	465.0105 Asphaltic Surface	938.000 TON		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0920	465.0120 Asphaltic Surface Driveways and Field Entrances	170.000 TON		.		.
0930	465.0125 Asphaltic Surface Temporary	120.000 TON		.		.
0940	465.0400 Asphaltic Shoulder Rumble Strips **P**	19,260.000 LF		.		.
0950	502.1100 Concrete Masonry Seal **P**	354.000 CY		.		.
0960	502.3100 Expansion Device (structure) 001. B-05-672 **P**	LUMP	LUMP			.
0970	502.3110.S Expansion Device Modular (structure) 001. B-05-672 **P**	LUMP	LUMP			.
0980	502.3200 Protective Surface Treatment **P**	47,427.000 SY		.		.
0990	502.6110 Masonry Anchors Type S 3/4-Inch **P**	12.000 EACH		.		.
1000	503.0128 Prestressed Girder Type I 28-Inch **P**	1,314.000 LF		.		.
1010	503.0146 Prestressed Girder Type I 45W-Inch **P**	6,082.000 LF		.		.

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1020	503.0155 Prestressed Girder Type I 54W-Inch **P**	5,603.000 LF		.		.
1030	503.0172 Prestressed Girder Type I 72W-Inch **P**	1,937.000 LF		.		.
1040	504.0500 Concrete Masonry Retaining Walls **P**	574.000 CY		.		.
1050	505.0405 Bar Steel Reinforcement HS Bridges	96,377.000 LB		.		.
1060	505.0605 Bar Steel Reinforcement HS Coated Bridges	1,425,618 LB		.		.
1070	505.0615 Bar Steel Reinforcement HS Coated Retaining Walls	63,020.000 LB		.		.
1080	506.2605 Bearing Pads Elastomeric Non-Laminated **P**	254.000 EACH		.		.
1090	506.2610 Bearing Pads Elastomeric Laminated **P**	6.000 EACH		.		.
1100	506.4000 Steel Diaphragms (structure) 001. B-05-668 **P**	24.000 EACH		.		.
1110	506.4000 Steel Diaphragms (structure) 002. B-05-672 **P**	90.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1120	506.4000 Steel Diaphragms (structure) 003. B-05-673 **P**	24.000 EACH		.		.
1130	506.4000 Steel Diaphragms (structure) 004. B-05-676 **P**	16.000 EACH		.		.
1140	506.4000 Steel Diaphragms (structure) 005. B-05-682 **P**	68.000 EACH		.		.
1150	506.6000 Bearing Assemblies Expansion (structure) 001. B-05-672 **P**	18.000 EACH		.		.
1160	511.1200 Temporary Shoring (structure) 001. B-05-673	1,370.000 SF		.		.
1170	511.1200 Temporary Shoring (structure) 700. B-05-668	1,170.000 SF		.		.
1180	513.2000 Railing Pipe (structure) 001. R-5-259	LUMP	LUMP			.
1190	513.2000 Railing Pipe (structure) 002. R-5-260	LUMP	LUMP			.
1200	514.0450 Floor Drains Type WF	11.000 EACH		.		.
1210	514.0460 Floor Drains Type H	2.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1220	516.0500 Rubberized Membrane Waterproofing **P**	296.000 SY		.		.
1230	520.0124 Culvert Pipe Class III 24-Inch	105.000 LF		.		.
1240	520.8000 Concrete Collars for Pipe	26.000 EACH		.		.
1250	521.0118 Culvert Pipe Corrugated Steel 18-Inch	112.000 LF		.		.
1260	521.0124 Culvert Pipe Corrugated Steel 24-Inch	24.000 LF		.		.
1270	521.1018 Apron Endwalls for Culvert Pipe Steel 18-Inch	4.000 EACH		.		.
1280	521.1024 Apron Endwalls for Culvert Pipe Steel 24-Inch	2.000 EACH		.		.
1290	521.1618 Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 10 To 1	2.000 EACH		.		.
1300	522.0118 Culvert Pipe Reinforced Concrete Class III 18-Inch	146.000 LF		.		.
1310	522.0124 Culvert Pipe Reinforced Concrete Class III 24-Inch	386.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1320	522.0130 Culvert Pipe Reinforced Concrete Class III 30-Inch	200.000 LF		.		.
1330	522.0136 Culvert Pipe Reinforced Concrete Class III 36-Inch	106.000 LF		.		.
1340	522.1015 Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	10.000 EACH		.		.
1350	522.1018 Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	23.000 EACH		.		.
1360	522.1024 Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	19.000 EACH		.		.
1370	522.1030 Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	2.000 EACH		.		.
1380	522.1036 Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	1.000 EACH		.		.
1390	523.0419 Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 19x30-Inch	48.000 LF		.		.
1400	523.0519 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	2.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1410	524.0118 Culvert Pipe Salvaged 18-Inch	40.000 LF		.		.
1420	524.0618 Apron Endwalls for Culvert Pipe Salvaged 18-Inch	4.000 EACH		.		.
1430	524.0624 Apron Endwalls for Culvert Pipe Salvaged 24-Inch	1.000 EACH		.		.
1440	550.0500 Pile Points	379.000 EACH		.		.
1450	550.1120 Piling Steel HP 12-Inch X 53 Lb	19,484.000 LF		.		.
1460	550.1140 Piling Steel HP 14-Inch X 73 Lb	8,106.000 LF		.		.
1470	601.0342 Concrete Curb & Gutter Integral 18-Inch **P**	1,840.000 LF		.		.
1480	601.0409 Concrete Curb & Gutter 30-Inch Type A **P**	140.000 LF		.		.
1490	601.0411 Concrete Curb & Gutter 30-Inch Type D **P**	765.000 LF		.		.
1500	601.0600 Concrete Curb Pedestrian **P**	425.000 LF		.		.
1510	602.0410 Concrete Sidewalk 5-Inch **P**	156,850.000 SF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1520	602.0505 Curb Ramp Detectable Warning Field Yellow **P**	608.000 SF		.		.
1530	603.1132 Concrete Barrier Type S32 **P**	3,330.000 LF		.		.
1540	603.1142 Concrete Barrier Type S42 **P**	8,320.000 LF		.		.
1550	603.1156 Concrete Barrier Type S56 **P**	11,850.000 LF		.		.
1560	603.1342 Concrete Barrier Type S42B **P**	80.000 LF		.		.
1570	603.1442 Concrete Barrier Type S42C **P**	330.000 LF		.		.
1580	603.1456 Concrete Barrier Type S56C **P**	475.000 LF		.		.
1590	603.3513 Concrete Barrier Transition Type S32 to S36	3.000 EACH		.		.
1600	603.3535 Concrete Barrier Transition Type S36 to S42	4.000 EACH		.		.
1610	603.3559 Concrete Barrier Transition Type S42 to S56	5.000 EACH		.		.

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1620	603.8125 Concrete Barrier Temporary Precast Installed	1,380.000 LF		.		.
1630	604.0400 Slope Paving Concrete **P**	156.000 SY		.		.
1640	604.0600 Slope Paving Select Crushed Material **P**	3,457.000 SY		.		.
1650	606.0200 Riprap Medium	921.000 CY		.		.
1660	606.0300 Riprap Heavy	263.000 CY		.		.
1670	608.0312 Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	1,366.000 LF		.		.
1680	608.0315 Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	2,664.000 LF		.		.
1690	608.0318 Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	3,059.000 LF		.		.
1700	608.0324 Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	3,265.000 LF		.		.
1710	608.0336 Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	367.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1720	608.0348 Storm Sewer Pipe Reinforced Concrete Class III 48-Inch	822.000 LF		.		.
1730	608.0354 Storm Sewer Pipe Reinforced Concrete Class III 54-Inch	328.000 LF		.		.
1740	611.0430 Reconstructing Inlets	2.000 EACH		.		.
1750	611.0530 Manhole Covers Type J	11.000 EACH		.		.
1760	611.0535 Manhole Covers Type J-Special	17.000 EACH		.		.
1770	611.0606 Inlet Covers Type B	4.000 EACH		.		.
1780	611.0612 Inlet Covers Type C	2.000 EACH		.		.
1790	611.0615 Inlet Covers Type F	2.000 EACH		.		.
1800	611.0624 Inlet Covers Type H	20.000 EACH		.		.
1810	611.0639 Inlet Covers Type H-S	63.000 EACH		.		.
1820	611.0642 Inlet Covers Type MS	20.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1830	611.0645 Inlet Covers Type MS-A	1.000 EACH		.		.
1840	611.0652 Inlet Covers Type T	6.000 EACH		.		.
1850	611.0654 Inlet Covers Type V	163.000 EACH		.		.
1860	611.2003 Manholes 3-Ft Diameter	1.000 EACH		.		.
1870	611.2004 Manholes 4-Ft Diameter	15.000 EACH		.		.
1880	611.2005 Manholes 5-Ft Diameter	22.000 EACH		.		.
1890	611.2006 Manholes 6-Ft Diameter	3.000 EACH		.		.
1900	611.2007 Manholes 7-Ft Diameter	1.000 EACH		.		.
1910	611.2008 Manholes 8-Ft Diameter	6.000 EACH		.		.
1920	611.3003 Inlets 3-Ft Diameter	7.000 EACH		.		.
1930	611.3004 Inlets 4-Ft Diameter	59.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1940	611.3220 Inlets 2x2-Ft	1.000 EACH		.		.
1950	611.3225 Inlets 2x2.5-Ft	100.000 EACH		.		.
1960	611.3230 Inlets 2x3-Ft	56.000 EACH		.		.
1970	611.3253 Inlets 2.5x3-Ft	2.000 EACH		.		.
1980	611.3901 Inlets Median 1 Grate	7.000 EACH		.		.
1990	611.3902 Inlets Median 2 Grate	6.000 EACH		.		.
2000	611.8110 Adjusting Manhole Covers	1.000 EACH		.		.
2010	611.9800.S Pipe Grates	2.000 EACH		.		.
2020	612.0106 Pipe Underdrain 6-Inch	3,250.000 LF		.		.
2030	612.0206 Pipe Underdrain Unperforated 6-Inch	180.000 LF		.		.
2040	612.0406 Pipe Underdrain Wrapped 6-Inch	3,540.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2050	614.0010 Barrier System Grading Shaping Finishing	2.000 EACH		.		.
2060	614.0397 Guardrail Mow Strip Emulsified Asphalt	780.000 SY		.		.
2070	614.0805 Crash Cushions Permanent Low Maintenance	2.000 EACH		.		.
2080	614.2300 Mgs Guardrail 3	1,375.000 LF		.		.
2090	614.2500 Mgs Thrie Beam Transition	199.000 LF		.		.
2100	614.2610 Mgs Guardrail Terminal EAT	8.000 EACH		.		.
2110	614.2620 Mgs Guardrail Terminal Type 2	2.000 EACH		.		.
2120	616.0100 Fence Woven Wire (height) 001. 4-Ft	19,247.000 LF		.		.
2130	616.0206 Fence Chain Link 6-FT	1,243.000 LF		.		.
2140	616.0329 Gates Chain Link (width) 001. 18-Ft	1.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2150	616.0360.S Gates Pipe Single Leaf (length) 001. 18-Ft	5.000 EACH		.		.
2160	616.0406 Fence Chain Link Salvaged 6-FT	30.000 LF		.		.
2170	616.0700.S Fence Safety	1,500.000 LF		.		.
2180	618.0100 Maintenance And Repair of Haul Roads (project) 001. 1133-10-77	1.000 EACH		.		.
2190	618.0100 Maintenance And Repair of Haul Roads (project) 002. 1133-10-75	1.000 EACH		.		.
2200	619.1000 Mobilization	1.000 EACH		.		.
2210	620.0200 Concrete Median Blunt Nose **P**	440.000 SF		.		.
2220	620.0300 Concrete Median Sloped Nose **P**	675.000 SF		.		.
2230	621.0100 Landmark Reference Monuments	24.000 EACH		.		.
2240	623.0200 Dust Control Surface Treatment	26,800.000 SY		.		.

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2250	624.0100 Water	1,550.000 MGAL		.		.
2260	625.0100 Topsoil	21,800.000 SY		.		.
2270	625.0500 Salvaged Topsoil	321,663.000 SY		.		.
2280	627.0200 Mulching	175,250.000 SY		.		.
2290	628.1504 Silt Fence	7,125.000 LF		.		.
2300	628.1520 Silt Fence Maintenance	7,125.000 LF		.		.
2310	628.1905 Mobilizations Erosion Control	17.000 EACH		.		.
2320	628.1910 Mobilizations Emergency Erosion Control	11.000 EACH		.		.
2330	628.2004 Erosion Mat Class I Type B	126,600.000 SY		.		.
2340	628.2008 Erosion Mat Urban Class I Type B	39,100.000 SY		.		.
2350	628.6005 Turbidity Barriers	1,600.000 SY		.		.

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2360	628.7005 Inlet Protection Type A	330.000 EACH		.		.
2370	628.7010 Inlet Protection Type B	172.000 EACH		.		.
2380	628.7015 Inlet Protection Type C	40.000 EACH		.		.
2390	628.7020 Inlet Protection Type D	125.000 EACH		.		.
2400	628.7504 Temporary Ditch Checks	1,350.000 LF		.		.
2410	628.7555 Culvert Pipe Checks	50.000 EACH		.		.
2420	628.7560 Tracking Pads	8.000 EACH		.		.
2430	628.7570 Rock Bags	325.000 EACH		.		.
2440	629.0210 Fertilizer Type B	217.000 CWT		.		.
2450	630.0120 Seeding Mixture No. 20	7,775.000 LB		.		.
2460	630.0140 Seeding Mixture No. 40	390.000 LB		.		.

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2470	630.0160 Seeding Mixture No. 60	258.000 LB		.		.
2480	630.0200 Seeding Temporary	6,620.000 LB		.		.
2490	632.0101 Trees (species, root, size) 01. Elm, Accolade, B&B, 2.5-Inch Cal.	6.000 EACH		.		.
2500	632.0101 Trees (species, root, size) 02. Honeylocust, Thornless 'Imperial', B&B, 2. 5-Inch Cal.	3.000 EACH		.		.
2510	632.0101 Trees (species, root, size) 03. Honeylocust, Thornless 'Skyline', B&B, 2.5-Inch Cal	14.000 EACH		.		.
2520	632.0101 Trees (species, root, size) 04. Maple, Freeman 'Sienna Glen', B&B, 2.5-Inch Cal.	19.000 EACH		.		.
2530	632.0101 Trees (species, root, size) 05. Maple, State Street, B&B, 2. 5-Inch Cal.	6.000 EACH		.		.
2540	632.0101 Trees (species, root, size) 06. Oak, Bur, B&B, 2-Inch Cal.	18.000 EACH		.		.

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2550	632.0101 Trees (species, root, size) 07. American Hornbeam (Shrub Form Tree), B&B, 8-Foot Ht.	1.000 EACH		.		.
2560	632.0101 Trees (species, root, size) 08. Crabapple, 'Donald Wyman', B&B, 2-Inch Cal.	2.000 EACH		.		.
2570	632.0101 Trees (species, root, size) 09. Crabapple, 'Donald Wyman' (Shrub Form Tree), B&B, 8-Foot Ht.	20.000 EACH		.		.
2580	632.0101 Trees (species, root, size) 10. Crabapple, 'Prairiefire' (Shrub Form Tree), B&B, 10-Foot Ht.	7.000 EACH		.		.
2590	632.0101 Trees (species, root, size) 11. Hawthorn, 'Winter King', B&B, 2-Inch Cal.	13.000 EACH		.		.
2600	632.0101 Trees (species, root, size) 12. Hawthorn, 'Winter King' (Shrub Form Tree), B&B, 8-Foot Ht.	31.000 EACH		.		.
2610	632.0101 Trees (species, root, size) 13. Japanese Tree Lilac, 'Ivory Silk', B&B, 2-Inch Cal.	4.000 EACH		.		.

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2620	632.0101 Trees (species, root, size) 14. Japanese Tree Lilac, 'Ivory Silk' (Shrub Form Tree), B&B, 8-Foot Ht.	10.000 EACH		.		.
2630	632.0101 Trees (species, root, size) 15. Maple, Tatarian, B&B, 2-Inch Cal.	12.000 EACH		.		.
2640	632.0101 Trees (species, root, size) 16. Serviceberry, 'Princess Diana' (Shrub Form Tree), B&B, 6-Foot Ht.	31.000 EACH		.		.
2650	632.0101 Trees (species, root, size) 17. Viburnum, Blackhaw 'Forest Rouge' (Shrub Form Tree), B&B, 6-Foot Ht.	45.000 EACH		.		.
2660	632.0101 Trees (species, root, size) 18. Juniper, Pfitzer 'Kallay'S Compact', Container, 2-Foot Sp.	18.000 EACH		.		.
2670	632.0101 Trees (species, root, size) 19. Juniper, 'Mountbatten', B&B, 5-Foot Ht.	35.000 EACH		.		.
2680	632.0101 Trees (species, root, size) 20. Pine, Limber 'Vanderwolf'S Pyramid', B&B, 7-Foot Ht.	2.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2690	632.0101 Trees (species, root, size) 21. Spruce, Black Hills, 6' Ht., B&B, 6-Foot Ht.	9.000 EACH		.		.
2700	632.0101 Trees (species, root, size) 22. Spruce, Black Hills, 8' Ht., B&B, 8-Foot Ht.	7.000 EACH		.		.
2710	632.0101 Trees (species, root, size) 23. Spruce, Serbian, B&B, 5-Foot Ht.	8.000 EACH		.		.
2720	632.0101 Trees (species, root, size) 24. Birch, River 'Heritage (Shrub Form Tree), B&B, 6-Foot Ht.	12.000 EACH		.		.
2730	632.0101 Trees (species, root, size) 25. Hackberry, B&B, 2.5-Inch Cal.	21.000 EACH		.		.
2740	632.0101 Trees (species, root, size) 26. Horsechestnut, 'Baumannii', B&B, 2.5-Inch Cal.	10.000 EACH		.		.
2750	632.0101 Trees (species, root, size) 27. Larch, American, B&B, 6-Foot Ht.	11.000 EACH		.		.
2760	632.0101 Trees (species, root, size) 28. Oak, Swamp White, B&B, 2-Inch Cal.	12.000 EACH		.		.

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2770	632.0101 Trees (species, root, size) 29. Shagbark Hickory, B&B, 2-Inch Cal.	6.000 EACH		.		.
2780	632.0101 Trees (species, root, size) 30. Birch, River 'Fox Valley' (Shrub Form Tree), B&B, 4-Foot Ht.	8.000 EACH		.		.
2790	632.0101 Trees (species, root, size) 31. Serviceberry, 'Princess Diana' (Shrub Form Tree), B&B, 9-Foot Ht.	18.000 EACH		.		.
2800	632.0201 Shrubs (species, root, size) 01. Maple, Amur 'Bailey's Compact', Container, 5-Foot Ht.	5.000 EACH		.		.
2810	632.0201 Shrubs (species, root, size) 02. Ninebark, 'Summer Wine', Container, 3-Foot Ht.	38.000 EACH		.		.
2820	632.0201 Shrubs (species, root, size) 03. Rose, 'Dwarf Pavement', Container, 18-Inch Ht.	11.000 EACH		.		.
2830	632.0201 Shrubs (species, root, size) 04. Spirea, 'Birchleaf', Container, 18-Inch Ht.	36.000 EACH		.		.
2840	632.0201 Shrubs (species, root, size) 05. Spirea, 'Goldflame', Container, 18-Inch Ht.	66.000 EACH		.		.

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2850	632.0201 Shrubs (species, root, size) 06. Spirea, 'Renaissance' Vanhoutte, Container, 4-Foot Ht.	6.000 EACH		.		.
2860	632.0201 Shrubs (species, root, size) 07. Sumac, 'Gro-Low' Fragrant, Container, 24-Inch Sp.	55.000 EACH		.		.
2870	632.0201 Shrubs (species, root, size) 08. Viburnum, Arrowwood, Autumn Jazz, Container, 4-Foot Ht.	8.000 EACH		.		.
2880	632.0201 Shrubs (species, root, size) 09. American Hazelnut, Container, 3-Foot Ht.	12.000 EACH		.		.
2890	632.0201 Shrubs (species, root, size) 10. Alder, Speckled, Container, 3-Foot Ht.	12.000 EACH		.		.
2900	632.0201 Shrubs (species, root, size) 11. Buttonbush, Container, 3-Foot Ht.	7.000 EACH		.		.
2910	632.0201 Shrubs (species, root, size) 12. Elderberry, Container, 3-Foot Ht.	4.000 EACH		.		.
2920	632.0201 Shrubs (species, root, size) 13. Witchhazel, Common, Container, 3-Foot Ht.	2.000 EACH		.		.

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2930	632.0201 Shrubs (species, root, size) 14. Willow, Pussy, Container, 3-Foot Ht.	13.000 EACH		.		.
2940	632.9101 Landscape Planting Surveillance and Care Cycles	52.000 EACH		.		.
2950	633.0100 Delineator Posts Steel	51.000 EACH		.		.
2960	633.0500 Delineator Reflectors	315.000 EACH		.		.
2970	633.1000 Delineator Brackets	237.000 EACH		.		.
2980	633.1100 Delineators Temporary	25.000 EACH		.		.
2990	633.5200 Markers Culvert End	37.000 EACH		.		.
3000	634.0412 Posts Wood 4x4-Inch X 12-FT	11.000 EACH		.		.
3010	634.0612 Posts Wood 4x6-Inch X 12-FT	38.000 EACH		.		.
3020	634.0614 Posts Wood 4x6-Inch X 14-FT	42.000 EACH		.		.

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3030	634.0616 Posts Wood 4x6-Inch X 16-FT	140.000 EACH		.		.
3040	634.0618 Posts Wood 4x6-Inch X 18-FT	25.000 EACH		.		.
3050	634.0808 Posts Tubular Steel 2x2-Inch X 8-FT	155.000 EACH		.		.
3060	634.0810 Posts Tubular Steel 2x2-Inch X 10-FT	49.000 EACH		.		.
3070	634.0814 Posts Tubular Steel 2x2-Inch X 14-FT	20.000 EACH		.		.
3080	634.0816 Posts Tubular Steel 2x2-Inch X 16-FT	17.000 EACH		.		.
3090	635.0200 Sign Supports Structural Steel HS	1,900.000 LB		.		.
3100	636.0100 Sign Supports Concrete Masonry **P**	451.200 CY		.		.
3110	636.0500 Sign Supports Steel Reinforcement	196.000 LB		.		.
3120	636.1000 Sign Supports Steel Reinforcement HS	3,570.000 LB		.		.

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3130	636.1500 Sign Supports Steel Coated Reinforcement HS	70,439.000 LB		.		.
3140	637.1220 Signs Type I Reflective SH	9,619.500 SF		.		.
3150	637.2210 Signs Type II Reflective H	4,632.710 SF		.		.
3160	637.2215 Signs Type II Reflective H Folding	30.000 SF		.		.
3170	637.2220 Signs Type II Reflective SH	20.250 SF		.		.
3180	637.2230 Signs Type II Reflective F	754.000 SF		.		.
3190	638.2601 Removing Signs Type I	10.000 EACH		.		.
3200	638.2602 Removing Signs Type II	70.000 EACH		.		.
3210	638.3000 Removing Small Sign Supports	63.000 EACH		.		.
3220	638.3100 Removing Structural Steel Sign Supports	10.000 EACH		.		.
3230	638.3620 Erecting State Owned Signs Type II	36.000 EACH		.		.

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3240	641.6600 Sign Bridge (structure) 001. S-05-189	LUMP	LUMP			.
3250	641.6600 Sign Bridge (structure) 002. S-05-192	LUMP	LUMP			.
3260	641.6600 Sign Bridge (structure) 003. S-05-193	LUMP	LUMP			.
3270	641.6600 Sign Bridge (structure) 004. S-05-194	LUMP	LUMP			.
3280	641.6600 Sign Bridge (structure) 005. S-05-196	LUMP	LUMP			.
3290	641.6600 Sign Bridge (structure) 006. S-05-200	LUMP	LUMP			.
3300	641.6600 Sign Bridge (structure) 007. S-05-201	LUMP	LUMP			.
3310	641.6600 Sign Bridge (structure) 008. S-05-202	LUMP	LUMP			.
3320	641.8100 Overhead Sign Support (structure) 001. S-05-254	LUMP	LUMP			.
3330	641.8100 Overhead Sign Support (structure) 002. S-05-255	LUMP	LUMP			.

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3340	641.8100 Overhead Sign Support (structure) 003. S-05-258	LUMP	LUMP			.
3350	641.8100 Overhead Sign Support (structure) 004. S-05-259	LUMP	LUMP			.
3360	641.8100 Overhead Sign Support (structure) 009. S-05-263	LUMP	LUMP			.
3370	642.5401 Field Office Type D 01. Office 1	1.000 EACH		.		.
3380	642.5401 Field Office Type D 02. Office 2	1.000 EACH		.		.
3390	643.0200 Traffic Control Surveillance and Maintenance (project) 001. 1133-10-75	81.000 DAY		.		.
3400	643.0200 Traffic Control Surveillance and Maintenance (project) 002. 1133-10-77	600.000 DAY		.		.
3410	643.0300 Traffic Control Drums	291,983.000 DAY		.		.
3420	643.0410 Traffic Control Barricades Type II	492.000 DAY		.		.
3430	643.0420 Traffic Control Barricades Type III	15,420.000 DAY		.		.

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3440	643.0705 Traffic Control Warning Lights Type A	27,992.000 DAY		.		.
3450	643.0715 Traffic Control Warning Lights Type C	81,979.000 DAY		.		.
3460	643.0800 Traffic Control Arrow Boards	1,400.000 DAY		.		.
3470	643.0900 Traffic Control Signs	95,840.000 DAY		.		.
3480	643.0910 Traffic Control Covering Signs Type I	7.000 EACH		.		.
3490	643.0920 Traffic Control Covering Signs Type II	12.000 EACH		.		.
3500	643.1000 Traffic Control Signs Fixed Message	727.500 SF		.		.
3510	643.1050 Traffic Control Signs PCMS	986.000 DAY		.		.
3520	643.2000 Traffic Control Detour (project) 001. 1133-10-77	1.000 EACH		.		.
3530	643.3000 Traffic Control Detour Signs	48,810.000 DAY		.		.
3540	645.0111 Geotextile Fabric Type DF Schedule A	1,430.000 SY		.		.

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3550	645.0113 Geotextile Fabric Type DF Schedule C **P**	1,367.000 SY		.		.
3560	645.0115 Geotextile Fabric Type ES **P**	13,953.000 SY		.		.
3570	645.0120 Geotextile Fabric Type HR	1,883.000 SY		.		.
3580	645.0140 Geotextile Fabric Type SAS	2,360.000 SY		.		.
3590	646.0106 Pavement Marking Epoxy 4-Inch	129,875.000 LF		.		.
3600	646.0600 Removing Pavement Markings	101,730.000 LF		.		.
3610	646.0841.S Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	30,133.000 LF		.		.
3620	646.0843.S Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	24,660.000 LF		.		.
3630	647.0456 Pavement Marking Curb Epoxy	140.000 LF		.		.
3640	647.0566 Pavement Marking Stop Line Epoxy 18-Inch	54.000 LF		.		.

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3650	647.0606 Pavement Marking Island Nose Epoxy	3.000 EACH		.		.
3660	647.0726 Pavement Marking Diagonal Epoxy 12-Inch	155.000 LF		.		.
3670	647.0746 Pavement Marking Diagonal Epoxy 24-Inch	1,355.000 LF		.		.
3680	647.0766 Pavement Marking Crosswalk Epoxy 6-Inch	290.000 LF		.		.
3690	649.0400 Temporary Pavement Marking Removable Tape 4-Inch	6,970.000 LF		.		.
3700	649.0801 Temporary Pavement Marking Removable Tape 8-Inch	2,290.000 LF		.		.
3710	649.1800 Temporary Pavement Marking Arrows Removable Tape	5.000 EACH		.		.
3720	649.2000 Temporary Pavement Marking Words Removable Tape	1.000 EACH		.		.
3730	652.0125 Conduit Rigid Metallic 2-Inch **P**	2,432.000 LF		.		.
3740	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch **P**	41,526.000 LF		.		.

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3750	652.0235 Conduit Rigid Nonmetallic Schedule 40 3-Inch **P**	7,910.000 LF		.		.
3760	652.0325 Conduit Rigid Nonmetallic Schedule 80 2-Inch **P**	110.000 LF		.		.
3770	652.0605 Conduit Special 2-Inch **P**	925.000 LF		.		.
3780	652.0615 Conduit Special 3-Inch **P**	2,640.000 LF		.		.
3790	653.0135 Pull Boxes Steel 24x36-Inch	5.000 EACH		.		.
3800	653.0140 Pull Boxes Steel 24x42-Inch	95.000 EACH		.		.
3810	653.0180 Pull Boxes Steel Communications (inch) 001. 24x36-Inch	35.000 EACH		.		.
3820	653.0220 Junction Boxes 18x6x6-Inch	1.000 EACH		.		.
3830	653.0222 Junction Boxes 18x12x6-Inch	15.000 EACH		.		.
3840	653.0905 Removing Pull Boxes	16.000 EACH		.		.

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3850	654.0102 Concrete Bases Type 2	2.000 EACH		.		.
3860	654.0105 Concrete Bases Type 5	33.000 EACH		.		.
3870	654.0107 Concrete Bases Type 7	56.000 EACH		.		.
3880	654.0217 Concrete Control Cabinet Bases Type 9 Special	1.000 EACH		.		.
3890	654.0220 Concrete Control Cabinet Bases Type 10	2.000 EACH		.		.
3900	654.0230 Concrete Control Cabinet Bases Type L30	1.000 EACH		.		.
3910	655.0610 Electrical Wire Lighting 12 AWG **P**	38,460.000 LF		.		.
3920	655.0615 Electrical Wire Lighting 10 AWG **P**	6,910.000 LF		.		.
3930	655.0620 Electrical Wire Lighting 8 AWG **P**	8,630.000 LF		.		.
3940	655.0630 Electrical Wire Lighting 4 AWG **P**	79,565.000 LF		.		.
3950	655.0635 Electrical Wire Lighting 2 AWG **P**	71,045.000 LF		.		.

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3960	655.0640 Electrical Wire Lighting 1 AWG **P**	139,605.000 LF		.		.
3970	656.0200 Electrical Service Meter Breaker Pedestal (location) 001. CB 500	LUMP	LUMP			.
3980	656.0200 Electrical Service Meter Breaker Pedestal (location) 002. CB 600	LUMP	LUMP			.
3990	656.0400 Electrical Service Main Lugs Only Meter Pedestal (location) 001. CB 200	LUMP	LUMP			.
4000	656.0400 Electrical Service Main Lugs Only Meter Pedestal (location) 002. CB 300	LUMP	LUMP			.
4010	656.0400 Electrical Service Main Lugs Only Meter Pedestal (location) 003. CB 400	LUMP	LUMP			.
4020	656.0500 Electrical Service Breaker Disconnect Box (location) 001. CCTV-05-0046	LUMP	LUMP			.
4030	656.0500 Electrical Service Breaker Disconnect Box (location) 002. CCTV-05-0047	LUMP	LUMP			.

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4040	657.0210 Transformer Bases Breakaway 15-17 Inch Bolt Circle	56.000 EACH		.		.
4050	657.0255 Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	12.000 EACH		.		.
4060	657.0310 Poles Type 3	2.000 EACH		.		.
4070	657.0322 Poles Type 5-Aluminum	50.000 EACH		.		.
4080	657.0337 Poles Type 17-Aluminum	144.000 EACH		.		.
4090	657.0605 Luminaire Arms Single Member 4 1/2-Inch Clamp 4-FT	44.000 EACH		.		.
4100	657.0620 Luminaire Arms Single Member 6-Inch Clamp 4-FT	116.000 EACH		.		.
4110	657.0730 Luminaire Arms Truss Type 6-Inch Clamp 12-FT	57.000 EACH		.		.
4120	657.6005.S Anchor Assemblies Light Poles on Structures	10.000 EACH		.		.
4130	659.0115 Luminaires Utility HPS 150 Watts	40.000 EACH		.		.
4140	659.0125 Luminaires Utility HPS 250 Watts	87.000 EACH		.		.

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4150	659.0135 Luminaires Utility HPS 400 Watts	94.000 EACH		.		.
4160	659.0600 Underdeck Lighting (location) 001. R-05-234	LUMP	LUMP			.
4170	659.0600 Underdeck Lighting (location) 002. R-05-235	LUMP	LUMP			.
4180	659.0802 Plaques Sequence Identification	229.000 EACH		.		.
4190	659.1210 Luminaires Underdeck LED B	8.000 EACH		.		.
4200	670.0100 Field System Integrator	LUMP	LUMP			.
4210	670.0200 ITS Documentation	LUMP	LUMP			.
4220	671.0300 Fiber Optic Cable Marker	100.000 EACH		.		.
4230	672.0250 Base Camera Pole 50-FT	2.000 EACH		.		.
4240	672.0280 Base Camera Pole 80-FT	1.000 EACH		.		.
4250	673.0105 Communication Vault Type 1	25.000 EACH		.		.

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4260	673.0225.S Install Pole Mounted Cabinet	3.000 EACH		.		.
4270	674.0200 Cable Microwave Detector	10,215.000 LF		.		.
4280	675.0300 Install Mounted Controller Microwave Detector Assembly	6.000 EACH		.		.
4290	675.0400.S Install Ethernet Switch	5.000 EACH		.		.
4300	677.0100 Install Camera Pole	3.000 EACH		.		.
4310	677.0200 Install Camera Assembly	3.000 EACH		.		.
4320	677.0300.S Install Video Encoder	3.000 EACH		.		.
4330	678.0006 Install Fiber Optic Cable Outdoor Plant 6-CT	1,835.000 LF		.		.
4340	678.0012 Install Fiber Optic Cable Outdoor Plant 12-CT	4,350.000 LF		.		.
4350	678.0036 Install Fiber Optic Cable Outdoor Plant 36-CT	13,205.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
4360	678.0072 Install Fiber Optic Cable Outdoor Plant 72-CT	52,140.000 LF		.		.
4370	678.0200 Fiber Optic Splice Enclosure	12.000 EACH		.		.
4380	678.0300 Fiber Optic Splice	873.000 EACH		.		.
4390	678.0400 Fiber Optic Termination	66.000 EACH		.		.
4400	678.0500 Communication System Testing	LUMP	LUMP			.
4410	690.0150 Sawing Asphalt	1,298.000 LF		.		.
4420	690.0250 Sawing Concrete	96.000 LF		.		.
4430	ASP.1T0A On-the-Job Training Apprentice at $5.00/HR	2,100.000 HRS	5.00000		10500.00	
4440	ASP.1T0G On-the-Job Training Graduate at $5.00/HR	5,760.000 HRS	5.00000		28800.00	
4450	SPV.0035 Special 001. Drainage Blanket	26,789.000 CY		.		.
4460	SPV.0035 Special 002. Roadway Embankment	525,345.000 CY		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
4470	SPV.0035 Special 003. Excavation Of Phragmites Soil	1,155.000 CY	.		.	
4480	SPV.0035 Special 004. Granular Material For ES Fabric	9,302.000 CY	.		.	
4490	SPV.0035 Special 500. Planting Mixture	1,918.000 CY	.		.	
4500	SPV.0035 Special 501. Topsoil Special	1,465.000 CY	.		.	
4510	SPV.0035 Special 700. High Performance Concrete (HPC) Masonry Structures **P**	8,100.000 CY	.		.	
4520	SPV.0060 Special 001. CPM Baseline Schedule	2.000 EACH	.		.	
4530	SPV.0060 Special 002. CPM Schedule Monthly Updates	49.000 EACH	.		.	
4540	SPV.0060 Special 003. Vibrating Wire Piezometer Instrumentation System, Delivered	12.000 EACH	.		.	
4550	SPV.0060 Special 004. Settlement Gauges	11.000 EACH	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
4560	SPV.0060 Special 005. Concrete Barrier Trans Type S56 (54-Inch Base) To S56 (36-Inch Base)	1.000 EACH		.		.
4570	SPV.0060 Special 009. Utility Line Opening	4.000 EACH		.		.
4580	SPV.0060 Special 010. Section Survey Monuments, Reconstruct Project	6.000 EACH		.		.
4590	SPV.0060 Special 012. Removing Traffic Control Type I Sign Covering Other Contracts	14.000 EACH		.		.
4600	SPV.0060 Special 100. Inlets 4-Ft Diameter Special	1.000 EACH		.		.
4610	SPV.0060 Special 101. Inlets 2 X 2.5-Ft Special	5.000 EACH		.		.
4620	SPV.0060 Special 103. Inlet Cover Type DW	1.000 EACH		.		.
4630	SPV.0060 Special 104. Drain Slotted Vane Type A 3-Foot	7.000 EACH		.		.
4640	SPV.0060 Special 105. Drain Slotted Vane Type B 6-Foot	8.000 EACH		.		.
4650	SPV.0060 Special 110. Inlets Median 2 Grate Special	1.000 EACH		.		.

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4660	SPV.0060 Special 113. Apron Endwall for Culvert Pipe Steel 10-Inch	1.000 EACH		.		.
4670	SPV.0060 Special 151. Sedimentation Basin	10.000 EACH		.		.
4680	SPV.0060 Special 152. Temporary Stone Ditch Checks	11.000 EACH		.		.
4690	SPV.0060 Special 153. Tracking Pad Maintenance	2.000 EACH		.		.
4700	SPV.0060 Special 200. Maintenance And Removal Of Crash Cushions Temp Left In Place By Others	5.000 EACH		.		.
4710	SPV.0060 Special 250. V-Loc Sign Anchors	37.000 EACH		.		.
4720	SPV.0060 Special 300. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 1	23.000 EACH		.		.
4730	SPV.0060 Special 301. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2	16.000 EACH		.		.
4740	SPV.0060 Special 302. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 3	9.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
4750	SPV.0060 Special 303. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2R	7.000 EACH		.		.
4760	SPV.0060 Special 304. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 3R	6.000 EACH		.		.
4770	SPV.0060 Special 305. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 6	1.000 EACH		.		.
4780	SPV.0060 Special 306. Pavement Marking Grooved Preformed Thermoplastic Words	33.000 EACH		.		.
4790	SPV.0060 Special 310. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 5	12.000 EACH		.		.
4800	SPV.0060 Special 351. Polymer Concrete Pullbox	17.000 EACH		.		.
4810	SPV.0060 Special 352. Luminaire Arms Truss Type 4-Inch Clamp 12-Ft Black	2.000 EACH		.		.
4820	SPV.0060 Special 353. Concrete Bases Type 7 Median	37.000 EACH		.		.
4830	SPV.0060 Special 354. Concrete Base Median Barrier Type 1	9.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
4840	SPV.0060 Special 355. Concrete Base Median Barrier Type 2	2.000 EACH		.		.
4850	SPV.0060 Special 356. Concrete Base Median Barrier Type 3	8.000 EACH		.		.
4860	SPV.0060 Special 357. Double Lighting Cabinet Base	3.000 EACH		.		.
4870	SPV.0060 Special 358. Concrete Bases Type W	13.000 EACH		.		.
4880	SPV.0060 Special 359. Poles Type 5-Aluminum Black	20.000 EACH		.		.
4890	SPV.0060 Special 360. Transformer Bases Breakaway 11 1/2-Inch Bolt Circle Black	23.000 EACH		.		.
4900	SPV.0060 Special 361. Luminaire Arms Truss 4 1/2-Inch Clamp 12-Ft Black	22.000 EACH		.		.
4910	SPV.0060 Special 362. Luminaires Utility Led Category C Black	24.000 EACH		.		.
4920	SPV.0060 Special 363. Lighting Control Cabinet - Freeway	6.000 EACH		.		.
4930	SPV.0060 Special 364. Lighting Control Cabinet - Roundabout	1.000 EACH		.		.

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4940	SPV.0060 Special 365. Anchor Bolt Cover Shroud	5.000 EACH		.		.
4950	SPV.0060 Special 366. Lighting Control Cabinet - Local	1.000 EACH		.		.
4960	SPV.0060 Special 367. Fiberglass Street Light Pole - Install Only	13.000 EACH		.		.
4970	SPV.0060 Special 368. Street Light Mast Arm 10 Foot - Install Only	16.000 EACH		.		.
4980	SPV.0060 Special 369. Box Style Luminaire Led - Install Only	16.000 EACH		.		.
4990	SPV.0060 Special 371. Remove Luminaire	4.000 EACH		.		.
5000	SPV.0060 Special 403. Salvage Pole Mounted Cabinet	1.000 EACH		.		.
5010	SPV.0060 Special 404. Salvage IP Radio	16.000 EACH		.		.
5020	SPV.0060 Special 405. Ramp Closure Gates Solar Powered 24-Ft	1.000 EACH		.		.
5030	SPV.0060 Special 406. Ramp Closure Gates Solar Powered 30-Ft	2.000 EACH		.		.
5040	SPV.0060 Special 407. Pedestal Bases Black	2.000 EACH		.		.

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5050	SPV.0060 Special 409. Traffic Signal Standards Aluminum 15-Ft Black	2.000 EACH		.		.
5060	SPV.0060 Special 410. Tracer Test Station	9.000 EACH		.		.
5070	SPV.0060 Special 411. Install Termination Panel	10.000 EACH		.		.
5080	SPV.0060 Special 412. Salvage Camera Assembly	1.000 EACH		.		.
5090	SPV.0060 Special 413. Salvage Ethernet Switch	6.000 EACH		.		.
5100	SPV.0060 Special 414. Salvage Video Encoder	1.000 EACH		.		.
5110	SPV.0060 Special 415. Salvage Mounted Controller Microwave Detector Assembly	1.000 EACH		.		.
5120	SPV.0060 Special 416. Remove Wood Pole	1.000 EACH		.		.
5130	SPV.0060 Special 417. Fusible Disconnect Box	1.000 EACH		.		.
5140	SPV.0060 Special 418. Step Down 3KVA Control Transformer 480V PRI- 120/240V SEC	1.000 EACH		.		.

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5150	SPV.0060 Special 419. Installing Pole Mounted Cabinet	2.000 EACH		.		.
5160	SPV.0060 Special 420. Installing Two Solar Panels On One Bracket	2.000 EACH		.		.
5170	SPV.0060 Special 421. Installing Wavetronix Click 200 Module	2.000 EACH		.		.
5180	SPV.0060 Special 422. Installing Wavetronix Detector Module	2.000 EACH		.		.
5190	SPV.0060 Special 423. Concrete Maintenance Platform	2.000 EACH		.		.
5200	SPV.0060 Special 424. Grading Shaping & Finishing For ATR Site	2.000 EACH		.		.
5210	SPV.0060 Special 500. Perennials, Aster (Purple Dome), Cg, 1 Gal	94.000 EACH		.		.
5220	SPV.0060 Special 501. Perennials, Bee Balm (Marshall's Delight), Cg, 1 Gal	44.000 EACH		.		.
5230	SPV.0060 Special 502. Perennials, Black-Eyed-Susan (City Garden), Cg, 1 Gal	235.000 EACH		.		.
5240	SPV.0060 Special 503. Perennials, Catmint (Walker'S Low), Cg, 1 Gal	142.000 EACH		.		.

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5250	SPV.0060 Special 504. Perennials, Coneflower (White Swan), Cg, 1 Gal	135.000 EACH		.		.
5260	SPV.0060 Special 505. Perennials, Daylily (Alabama Jubilee), Cg, 1 Gal	82.000 EACH		.		.
5270	SPV.0060 Special 506. Perennials, Daylily (Flava), Cg, 1 Gal	93.000 EACH		.		.
5280	SPV.0060 Special 507. Perennials, Daylily (Hyperion), Cg, 1 Gal	7.000 EACH		.		.
5290	SPV.0060 Special 508. Perennials, Daylily (Pardon Me), Cg, 1 Gal	201.000 EACH		.		.
5300	SPV.0060 Special 509. Perennials, Feather Reed Grass (Karl Foerster), Cg, 3 Gal	208.000 EACH		.		.
5310	SPV.0060 Special 510. Perennials, Gayfeather, Spiked (Kobold), Cg, 1 Gal	80.000 EACH		.		.
5320	SPV.0060 Special 511. Perennials, Little Bluestem (The Blues), Cg, 1 Gal	284.000 EACH		.		.
5330	SPV.0060 Special 512. Perennials, Maidenhair Grass (Zebra), Cg, 3 Gal	4.000 EACH		.		.

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5340	SPV.0060 Special 513. Perennials, Prairie Dropseed, Cg, 1 Gal	41.000 EACH		.		.
5350	SPV.0060 Special 514. Perennials, Salvia (May Night), Cg, 1 Gal	134.000 EACH		.		.
5360	SPV.0060 Special 515. Perennials, Sedum (Autumn Joy), Cg, 1 Gal	77.000 EACH		.		.
5370	SPV.0060 Special 516. Perennials, Switchgrass (Northwind), Cg, 3 Gal	7.000 EACH		.		.
5380	SPV.0060 Special 517. Annuals, Canna (President), Bulb/Cg, 4-Eye Minimum	94.000 EACH		.		.
5390	SPV.0060 Special 518. Bulbs, Daffodil 'Stainless', Bulb, DN 1	300.000 EACH		.		.
5400	SPV.0060 Special 519. Bulbs, Tulip 'American Dream', Bulb, 12+cm	300.000 EACH		.		.
5410	SPV.0060 Special 520. Bulbs, Tulip, 'Jaap Groot', Bulb, 12+cm	300.000 EACH		.		.
5420	SPV.0060 Special 700. Pile Dynamic Analyzer (PDA) Testing	3.000 EACH		.		.
5430	SPV.0060 Special 701. Pile Dynamic Analyzer (PDA) Restriking	3.000 EACH		.		.

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5440	SPV.0060 Special 702. Case Pile Wave Analysis Program (Capwap) Evaluation	1.000 EACH		.		.
5450	SPV.0060 Special 703. Standpipe System	1.000 EACH		.		.
5460	SPV.0075 Special 150. Street Sweeping	600.000 HRS		.		.
5470	SPV.0075 Special 200. Truck Mounted Attenuator With Operator	150.000 HRS		.		.
5480	SPV.0075 Special 201. Truck Mounted Attenuator Without Operator	150.000 HRS		.		.
5490	SPV.0085 Special 700. Bar Steel Reinforcement HS Stainless Bridges	13,443.000 LB		.		.
5500	SPV.0090 Special 001. Concrete Curb & Gutter 18-Inch Type A Full Depth Reverse Slope Gutter **P**	850.000 LF		.		.
5510	SPV.0090 Special 002. Concrete Curb & Gutter 30-Inch Type A Full Depth **P**	8,737.000 LF		.		.
5520	SPV.0090 Special 003. Concrete Curb & Gutter 32-Inch Type A Full Depth **P**	108.000 LF		.		.

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5530	SPV.0090 Special 004. Concrete Curb & Gutter 54-Inch Type A Full Depth **P**	40.000 LF		.		.
5540	SPV.0090 Special 006. Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type A Full Depth **P**	40.000 LF		.		.
5550	SPV.0090 Special 007. Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type R Full Depth **P**	1,100.000 LF		.		.
5560	SPV.0090 Special 008. Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A Full Depth **P**	333.000 LF		.		.
5570	SPV.0090 Special 009. Concrete Curb & Gutter 6-Inch Sloped 60-Inch Type A Full Depth **P**	486.000 LF		.		.
5580	SPV.0090 Special 010. Fence Chain Link Polymer-Coated 4-Ft	50.000 LF		.		.
5590	SPV.0090 Special 011. Pedestrian Railing	1,107.000 LF		.		.
5600	SPV.0090 Special 012. Strip Drains	359,285.000 LF		.		.
5610	SPV.0090 Special 013. Pre-Bored Strip Drains	238,224.000 LF		.		.

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5620	SPV.0090 Special 014. Concrete Barrier Type S56 (36-Inch Wide Base) **P**	2,100.000 LF		.		.
5630	SPV.0090 Special 015. Concrete Barrier Type S56A (36-Inch Wide Base) **P**	3,495.000 LF		.		.
5640	SPV.0090 Special 016. Concrete Curb & Gutter And Barrier, Cold Weather Covering, Plastic 1 Layer	2,100.000 LF		.		.
5650	SPV.0090 Special 017. Concrete Curb & Gutter and Barrier, Cold Weather Covering, Plastic 2 Layers	600.000 LF		.		.
5660	SPV.0090 Special 018. Conc C&G and Barrier, Cold Weather Covering, Plastic/Hay/Plastic or Blanket	600.000 LF		.		.
5670	SPV.0090 Special 019. Concrete Curb & Gutter 30-Inch Type D HES **P**	765.000 LF		.		.
5680	SPV.0090 Special 020. Concrete Curb & Gutter 30-Inch Type A Full Depth HES **P**	445.000 LF		.		.
5690	SPV.0090 Special 307. Pavement Marking Grooved Preformed Thermoplastic, Crosswalk 6-Inch	670.000 LF		.		.

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5700	SPV.0090 Special 308. Pavement Marking Grooved Preformed Thermoplastic 8-Inch	1,075.000 LF		.		.
5710	SPV.0090 Special 309. Pavement Marking Grooved Preformed Thermoplastic 18-Inch	290.000 LF		.		.
5720	SPV.0090 Special 370. Pullbox Drain Duct	755.000 LF		.		.
5730	SPV.0090 Special 400. Conduit HDPE 3-Duct 2-Inch	13,655.000 LF		.		.
5740	SPV.0090 Special 401. Conduit HDPE Directional Bore 3-Duct 2-Inch	105.000 LF		.		.
5750	SPV.0090 Special 402. Conduit HDPE 4-Duct 2-Inch	5,725.000 LF		.		.
5760	SPV.0090 Special 500. Aluminum Edging	410.000 LF		.		.
5770	SPV.0090 Special 700. Downspout RTRP 6-Inch	32.000 LF		.		.
5780	SPV.0090 Special 701. Railing Steel Type C4 Galvanized Pedestrian B-05-682	512.000 LF		.		.
5790	SPV.0090 Special 702. Downspout RTRP 8-Inch	110.000 LF		.		.

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5800	SPV.0105 Special 002. Survey Project 1133-10-75	LUMP	LUMP			.
5810	SPV.0105 Special 003. Survey Project 1133-10-77	LUMP	LUMP			.
5820	SPV.0105 Special 004. Geotechnical Instrumentation	LUMP	LUMP			.
5830	SPV.0105 Special 005. Temporary Haul Road Access For Construction Of Structure B-05-672	LUMP	LUMP			.
5840	SPV.0105 Special 006. Temporary Creek Access For Removal And Construction Of Structures	LUMP	LUMP			.
5850	SPV.0105 Special 008. Connecting Existing Downspot to Storm Sewer	LUMP	LUMP			.
5860	SPV.0105 Special 009. Maintenance Road Excavation MR2	LUMP	LUMP			.
5870	SPV.0105 Special 010. Maintenance Road Excavation MR3	LUMP	LUMP			.
5880	SPV.0105 Special 011. Concrete Pavement Joint Layout Project 1133-10-75	LUMP	LUMP			.

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5890	SPV.0105 Special 012. Concrete Pavement Joint Layout Project 1133-10-77	LUMP	LUMP			.
5900	SPV.0105 Special 200. Traffic Control For Duck Creek Recreational Vehicles	LUMP	LUMP			.
5910	SPV.0105 Special 450. Removing Traffic Signals (USH 41 NB and Velp Avenue)	LUMP	LUMP			.
5920	SPV.0105 Special 451. Removing Traffic Signals (USH 41 SB and Velp Avenue)	LUMP	LUMP			.
5930	SPV.0105 Special 950. Overhead Sign Support Black Finish Structure S-05-256	LUMP	LUMP			.
5940	SPV.0105 Special 951. Overhead Sign Support Black Finish Structure S-05-257	LUMP	LUMP			.
5950	SPV.0105 Special 952. Overhead Sign Support Black Finish Structure S-05-261	LUMP	LUMP			.
5960	SPV.0105 Special 953. Overhead Sign Support Black Finish Structure S-05-262	LUMP	LUMP			.
5970	SPV.0120 Special 001. Water For Seeded Areas	160.000 MGAL	.			.

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5980	SPV.0165 Special 001. Concrete Sidewalk 8-Inch **P**	1,260.000 SF		.		.
5990	SPV.0165 Special 002. Concrete Sidewalk HES 8-Inch **P**	730.000 SF		.		.
6000	SPV.0165 Special 700. Architectural Surface Treatment	26,866.000 SF		.		.
6010	SPV.0165 Special 701. Staining Concrete	91,562.000 SF		.		.
6020	SPV.0165 Special 702. Staining Concrete Brick	21,746.000 SF		.		.
6030	SPV.0165 Special 703. Longitudinal Grooving Bridge Deck **P**	107,695.000 SF		.		.
6040	SPV.0165 Special 704. Temporary Shoring Railroad B-05-673	820.000 SF		.		.
6050	SPV.0165 Special 708. Architectural Surface Treatment, Special	8,823.000 SF		.		.
6060	SPV.0165 Special 850. Wall Wire Faced Mechanically Stabilized Earth LRFD/QMP Pilot **P**	20,127.000 SF		.		.
6070	SPV.0165 Special 851. Prestressed Precast Concrete Wall Panel **P**	20,127.000 SF		.		.

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FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
6080	SPV.0165 Special 852. Wall Modular Block Mechanically Stabilized Earth LRFD **P**	1,268.000 SF		.		.
6090	SPV.0180 Special 001. Colored and Stamped Concrete 5-Inch	2,530.000 SY		.		.
6100	SPV.0180 Special 002. Colored and Stamped Concrete 8-Inch	1,630.000 SY		.		.
6110	SPV.0180 Special 003. Colored and Stamped Concrete 9-Inch	44.000 SY		.		.
6120	SPV.0180 Special 004. Colored and Stamped Concrete 10-Inch	55.000 SY		.		.
6130	SPV.0180 Special 005. Colored Concrete 6-Inch	1,130.000 SY		.		.
6140	SPV.0180 Special 006. Colored Concrete Pavement 9-Inch	122.000 SY		.		.
6150	SPV.0180 Special 007. Colored Concrete Pavement 10-Inch	150.000 SY		.		.
6160	SPV.0180 Special 008. Concrete Pavement Variable Depth	749.000 SY		.		.
6170	SPV.0180 Special 009. Geogrid Reinforcement	5,000.000 SY		.		.

CONTRACT: 20150310023
PROJECT(S): 1133-10-75, 1133-10-77
FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
6180	SPV.0180 Special 011. Concrete Pavement, Cold Weather Covering, Plastic 1 Layer	10,100.000 SY		.		.
6190	SPV.0180 Special 012. Concrete Pavement, Cold Weather Covering, Plastic 2 Layers	5,100.000 SY		.		.
6200	SPV.0180 Special 013. Conc Pave, Cold Weather Covering, Plastic/Hay/Plastic or Blankets	5,100.000 SY		.		.
6210	SPV.0180 Special 500. Shredded Hardwood Bark Mulch	1,696.000 SY		.		.
6220	SPV.0195 Special 001. Base Aggregate Dense 3/4-Inch Special	500.000 TON		.		.
6230	SPV.0195 Special 002. Breaker Run Special	500.000 TON		.		.
6240	SPV.0195 Special 004. Limestone Screenings	440.000 TON		.		.
6250	SPV.0195 Special 005. Cold Patch	10.000 TON		.		.
6260	SPV.0200 Special 100. Reconstructing Manhole 4-Ft Diameter	39.800 VF		.		.

CONTRACT: 20150310023
PROJECT(S): 1133-10-75, 1133-10-77
FEDERAL ID(S): WISC 2015135, WISC 2015136

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
6270	SPV.0200 Special 101. Reconstructing Manhole 5-Ft Diameter	24.300 VF		.		.
6280	SPV.0200 Special 102. Reconstructing Manhole 6-Ft Diameter	7.200 VF		.		.
6290	SPV.0200 Special 103. Reconstructing Manhole 6x6-Ft	5.400 VF		.		.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE